



Back Central Neighborhood Plan

Massachusetts Institute of Technology
Department of Urban Studies and Planning
December, 2008

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This plan was created by
graduate students in the Fall of
2008 as part of the MIT Urban
Studies and Planning Course:
11.360, Community Growth
and Land Use Planning. The
course focuses on techniques,
processes, and professional
skills, which are required to
effectively manage growth
and land use change in urban
environments.

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Acknowledgements

The students in Community Growth and Land Use Planning--Core of the City: Lowell's Back Central Neighborhood have had many helpful interactions with neighbors in Lowell, community organizations, business owners, and members of the Lowell City government. Here are some of the many people without whose help our project, and our learning process, would not have been possible. We send our sincerest thanks for your time and energy. We have learned a tremendous amount through engaging with so many people in Back Central. We hope that our efforts will serve to enrich Back Central, a neighborhood we have come to appreciate over the past several months.

Tony Accardi, Assistant Register of Deeds, North Middlesex County

Adam Baacke, Assistant City Manager, Planning and Development, City of Lowell

Jane Calvin and Brian Cutler, Lowell Parks and Conservation Trust

Frank Carvahlo, Merrimack Valley Community Development Financial Institution

James Cooney, Cooney Agency

George Duncan, Enterprise Bank and Trust

David Grenier

James Hogan, Washington Savings Bank

Dick Howe, Register of Deeds, North Middlesex County

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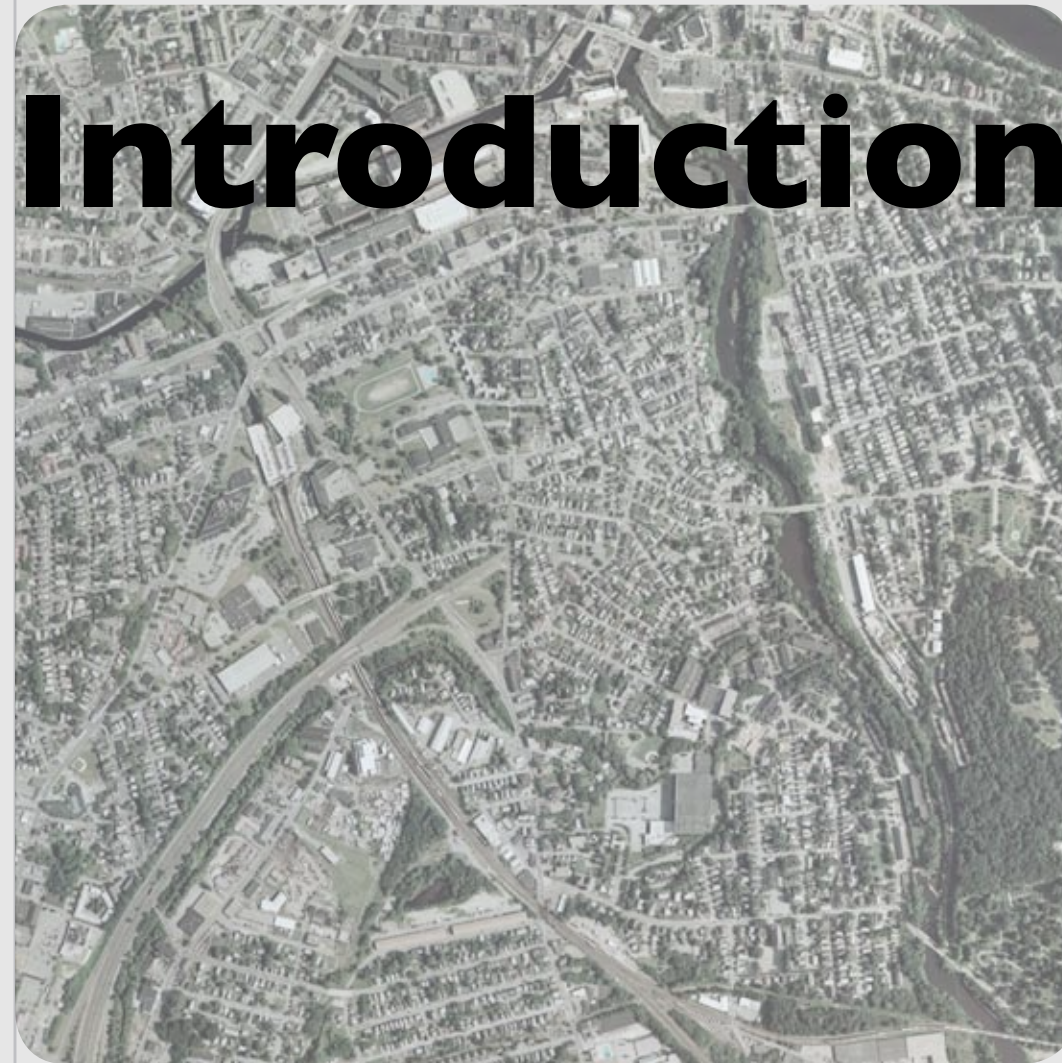
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Rogers Middle School 8th Grade Students

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As graduate students in MIT's Department of Urban Studies and Planning, we partnered with the City of Lowell Planning Department to review and advance various possibilities for development in Lowell's Back Central neighborhood. Among our goals were to address neighborhood quality of life concerns including open space, parking, business mix, and land use; and to articulate actions and strategies consistent with the neighborhood's vision.

Over the course of three months, we visited Back Central and hosted three public meetings, including an after-school session with eighth-graders from Rogers Middle School. This report provides our impressions and thoughts concerning neighborhood improvements and potential "catalyst" projects, which could serve to guide future development.

Our recommendations are guided by the following vision and objectives:

- Preserve Back Central as a stable neighborhood for generations;
- Make Back Central a better place to do business by encouraging public investment in its neighborhood business nodes and in its industrial infrastructure;
- Enhance neighborhood streets and sidewalks, preserve parking spaces, and encourage use of public transportation;
- Ensure that the neighborhood has places to share cultural and civic life; and
- Improve opportunities for Back Central neighbors to enjoy the outdoors through parks and other "green" additions.

Local Setting: Defining Back Central Neighborhood

Geographic Context

The Back Central neighborhood is located directly south of Downtown, west of the Concord River, east of Thorndike Street, and north of the Sacred Heart neighborhood. It is arranged along corridors (Gorham Street, Lawrence Street, Central Street) that lead into the Central Business, with shorter neighborhood streets running between them. Back Central is very dense and varied, with large numbers of mixed use blocks and individual buildings. No clearly defined edge defines the boundary between Back Central and Downtown, and the storefronts and offices of the CBD gradually give way to more and more residential uses as one travels south, out of the downtown.

At the northern end of the neighborhood, along Gorham Street, the mix of uses and scale of construction resembles the commercial node pattern common in Lowell's neighborhoods. The Middlesex Superior Court, a major institutional use, anchors the commercial uses in this area. The area of Back Central located east of Gorham Street features a mix of dense residential uses, with commercial uses scattered in along the major corridors – Lawrence Street and Central Street.



Figure 1.1. Back Central Neighborhood Boundary
(Source: Sarah Snider, Google Maps)

Between this area and Downtown is the Central Plaza, an urban renewal shopping center with a large amount of surface parking across Charles Street. The northwest section of Back Central, to the West of Gorham Street, is known as the Jackson/Appleton/Middlesex Streets or JAM area.

This area is a mix of multifamily residential, commercial, automotive, industrial and mixed use buildings. There is a high vacancy rate and a large number of vacant lots. The JAM Urban Revitalization Plan proposes to strengthen the commercial uses and promote the redevelopment of abandoned properties in this area. South of the JAM area is the South Common, a green space with an elementary school in the center; and Father Markham Village, a compound of large multifamily residential buildings.

Historic Landmarks

Walmesit Canal-Whipple Mill

Colburn School

Butler School

Neighborhood Context: Past and Present

Back Central (aka: The Flats, South End, Chapel Hill) was one of the first residential neighborhoods to develop in Lowell following the expansion of the Locks and Canals Company during the 1830s and 1840s. Although the earliest residents of Back Central were Yankees, by the Civil War the neighborhood had become home for Irish-Catholics, Portuguese, Armenian, Italian, Brazilian and Lithuanian. Portuguese immigrants, who worked in the textile mills, foundries, and tanneries, were the most prevalent of these early residents, establishing their own comunidade, or community, in Back Central.

Housing types and land uses in Back Central developed organically, driven by the intense demand for housing, and the topography and availability of land. Lots developed rapidly with small, nearly identical houses, primarily in Greek Revival and Italianate Styles. Notable examples of buildings from this period include the Colburn School, known for its use of Greek Revival architecture, and the Hocum Hosford House, known for its use of Italian architectural design. Other examples are the Asahel Puffer house and Samuel Wood house, each known for its roof, which are classic examples of centuries-old French architecture.

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Originally named “Chapel Hill,” Back Central also developed many ethnic institutions, including a number of churches, to meet the needs of the neighborhood. These establishments included St. Peter’s and St. Anthony’s (Catholic), St. Vartananz (Armenian Apostolic) along with St. John’s and the Eliot Church (Protestant). The considerable presence of these churches and cultural institutions contribute to the strength and stability of the neighborhood.

Introduction

Central and Lawrence. Most are smaller neighborhood-scale businesses, with larger retail nodes at Moore and Gorham and at Lawrence and Church Street. Back Central has also retained certain industrial businesses, and most industrial uses are concentrated south of the Lowell Connector and west of Gorham.

A larger neighborhood land use map based on the City's surveys of property uses in 2002 for the Lowell Master Plan is available in Appendix I.

South Common and Hudson Field provide recreational opportunities to the Back Central neighborhood. South Common in particular was home to the St. Peter's Little League and Cadets baseball teams, and for many years, it was the site for Lowell's annual Fourth of July fireworks.

Parks and Recreation

Father Grillo Park
Hales Brook
Oliveria Park
Rotary Park
South Common

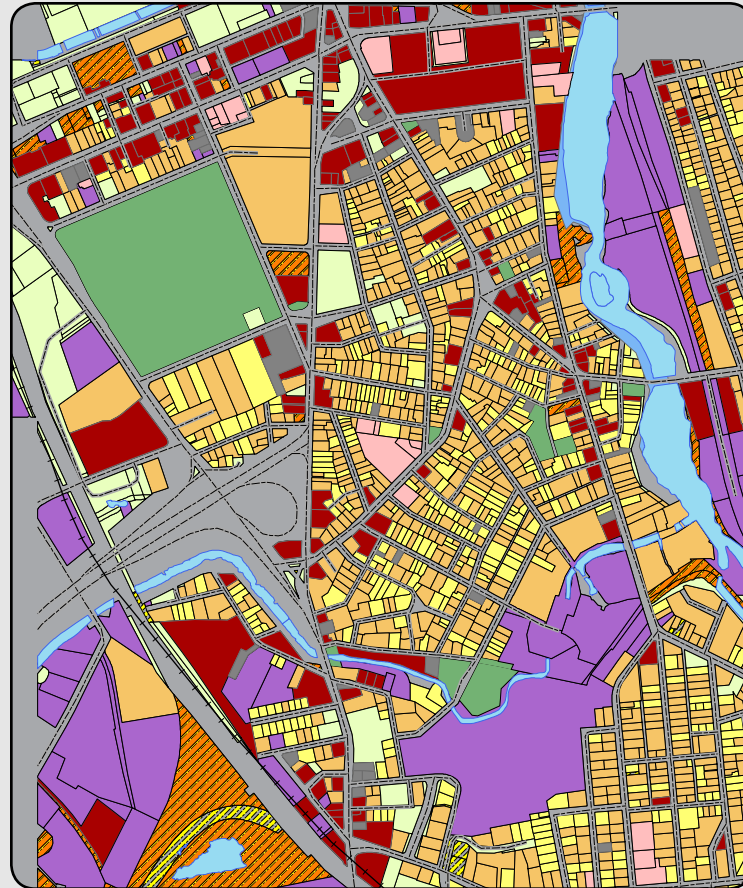


Figure I.3. Land Use Map. (Data Source: City of Lowell)

The People of Back Central

Back Central contains three census tracts (3119, 3120, and 3121), which in 2000 showed a combined population of 8,755. This represents only eight percent of the population for the City of Lowell.

Despite this statistic, Back Central is more racially and ethnically diverse than the city as whole: according to the census, an average of 22 percent of Lowell residents are foreign-born, compared to thirty-two percent in Back Central. In breaking down this number, we find that Asian populations inhabit 10 to 30 percent of Back Central and Latino populations also represent a significant proportion. The Massachusetts Institute for Social and Economic Research [at the University of Massachusetts] projects that the Asian populations in Lowell will increase by 43 percent to 24,926 in 2010, an estimated 21 percent of the citywide total projected population. The growing Asian and Latino populations have and will continue to diversify Back Central, as well as add to the city's overall cultural capital.

In the 1970s, median household incomes declined in every Lowell neighborhood. Between 1970 and 1980 the city's overall median household income fell from \$44,627 to \$36,038 (in

1999 dollars). Only one area in the Highlands saw an increase in income, albeit a slight 3.7 percent. In the 1980's, median incomes varied throughout the neighborhoods, but the city's overall adjusted median income increased by 5.9 percent (\$38,156). While the Sacred Heart district improved, Back Central was one of the neighborhoods that continued to experience declines in household income over this time period. In 2000, the median household income for Back Central residents was \$26,255, more than 30 percent lower than greater Lowell's average of \$39,192. Relatedly, the individual poverty rate in Back Central is over one and a half times greater than the rest of Lowell.

The homeownership rate for Back Central is only 28.4 percent, compared to about 43.0 percent in the city as a whole. In census tract 3119 alone, 83 percent of the housing units are renter-occupied. Appropriately, the neighborhood has a much higher density than the Lowell average: Back Central houses approximately 28 persons per acre, nearly double Lowell's citywide 12 persons per acre.

	Back Central	Lowell
Population	8,755	105,167
Land Area	.6 sq. mi.	13 sq. mi.
% Forieign Born	31.4%	22.1%
Average Household Size	2.75	2.67
Housing Occupancy Rate	95.3%	96.0%
Owner-Occupied Homes	28.4%	43.0%
Median House Value	~\$95,000	\$134,200
Median HH Income	\$26,255	\$39,192
Employment Rate (of 16+ in Labor Force)	91.8%	93.3%
Individual Poverty Rate	27.3%	16.8%
Population Density	28 persons/acre	12 persons/acre

“Growing up on Whipple Street (off Central Street) was an education about old neighborhoods with many stores and businesses around your home. On Whipple Street alone we had Nora’s Bar Room, Mike’s Market, O’Brien’s Funeral Home, Harry’s Market and Nickles’ Variety at the corner of Kinsman Street. To my generation, you always included Frank and Ernie’s at 810 Central Street, which is still in business. Also, across the street from St. Anthony’s Rectory was Charlie’s Market on the corner of Central and Floyd Streets.”

Resident of Back Central. (Source: http://library.uml.edu/clh/Exhibit/story_3.htm)



Figure 1.4. Back Central Census Tracts, 2000. (Source: US Census).

Community Life

Many Back Central residents still consider their neighborhood to be the “Portuguese neighborhood.” Today, a trip through Back Central bespeaks its ethnic heritage—from grape arbors and flower gardens to local bakeries, cultural clubs and shops—distinguishing it as a unique community within the the city of Lowell. At the same time, there is a sense of ongoing change, as newer immigrant groups, most notably Latino and Asian, continue to shape the character of the neighborhood.

Back Central hosts a number of community-based organizations and cultural groups, including the Back Central Neighborhood Association (BCNA), which was formed as a response to violent crimes in the neighborhood during the 1970 and 1980s. BCNA continues to meet regularly to address daily quality of life issues, including safety and trash. However, Back Central has a significant number of neighborhood stakeholders (residents, business owners, etc.) who are not organized; and concerns regarding prostitution, youth violence, and drug-related crimes persist. Aging buildings and vacant residential buildings also pose questions regarding fire safety in the neighborhood.

Planning Background

From the Lowell Master Plan

Goal Statement: Lowell will have safe, desirable, and vibrant neighborhoods with active and scenic business districts, public squares, and community parks that evoke a sense of place and convey their cultural and historic significance.

1. Action Step: Work with neighborhood residents and leaders to identify significant characteristics of each neighborhood to be preserved, protected, and enhanced.

2. Action Step: Explore local adoption of the Community Preservation Act as a tool for protecting and strengthening neighborhood character, as well as affordable housing.

3. Action Step: Implement greater design review procedures and provide for enforcement of those procedures to oversee development activity within existing subdivisions, off-street parking, site landscaping, signage, and major commercial renovations.

Since the passage of the 2003 Lowell Master Plan, neighborhood planning in Lowell has been active. Several issues have been identified in Back Central neighborhood, including lack of economic opportunity, troubled multi-family buildings, and crowded parking conditions. The parking and streets problems have persisted for years, and in summer 2007, the City conducted a parking study that demonstrating that the parking opportunities in Back Central were not as limited as perceived. Nevertheless, traffic and density have a significant impact on the neighborhood quality of life, and continued attempts to resolve these issues are needed.

Given Back Central neighborhood's proximity to the Hamilton Canal District, the Downtown, and rail transit to Boston, there is tremendous opportunity to address residents' concerns and build upon existing assets. Historic sites, such as the connection to downtown, old houses, and parks, represent a great resource for the community, yet one that has been under-appreciated. The City of Lowell has engaged students from MIT's Department of Urban Studies and Planning in several recent planning proposals, including Centralville (2005) and Upper Merrimack (2007). This planning proposal offers a chance for Back Central to develop neighborhood plans consistent with the City of Lowell Master Plan, while focusing on the neighborhood's unique character and concerns.

Catalyst Sites

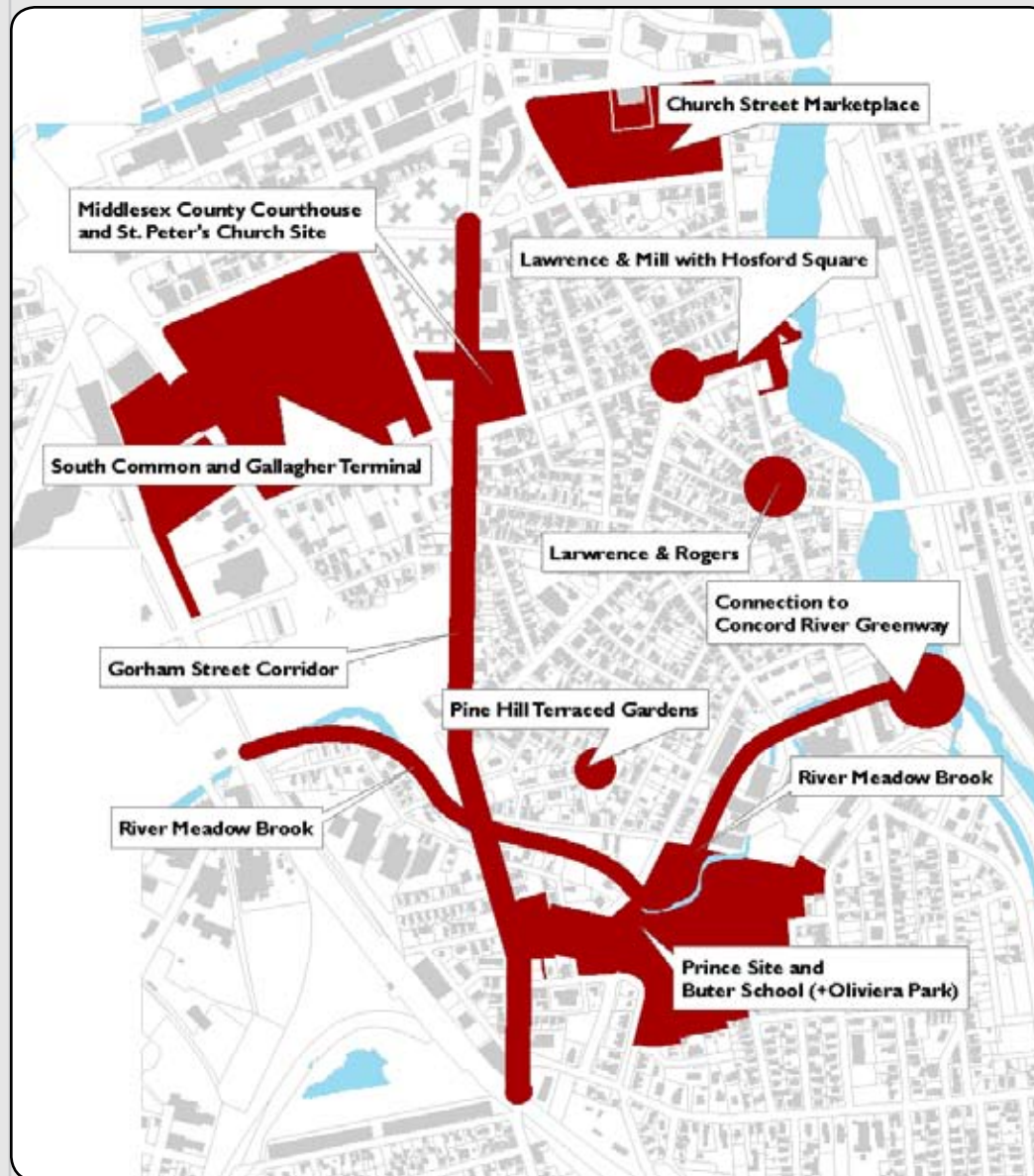
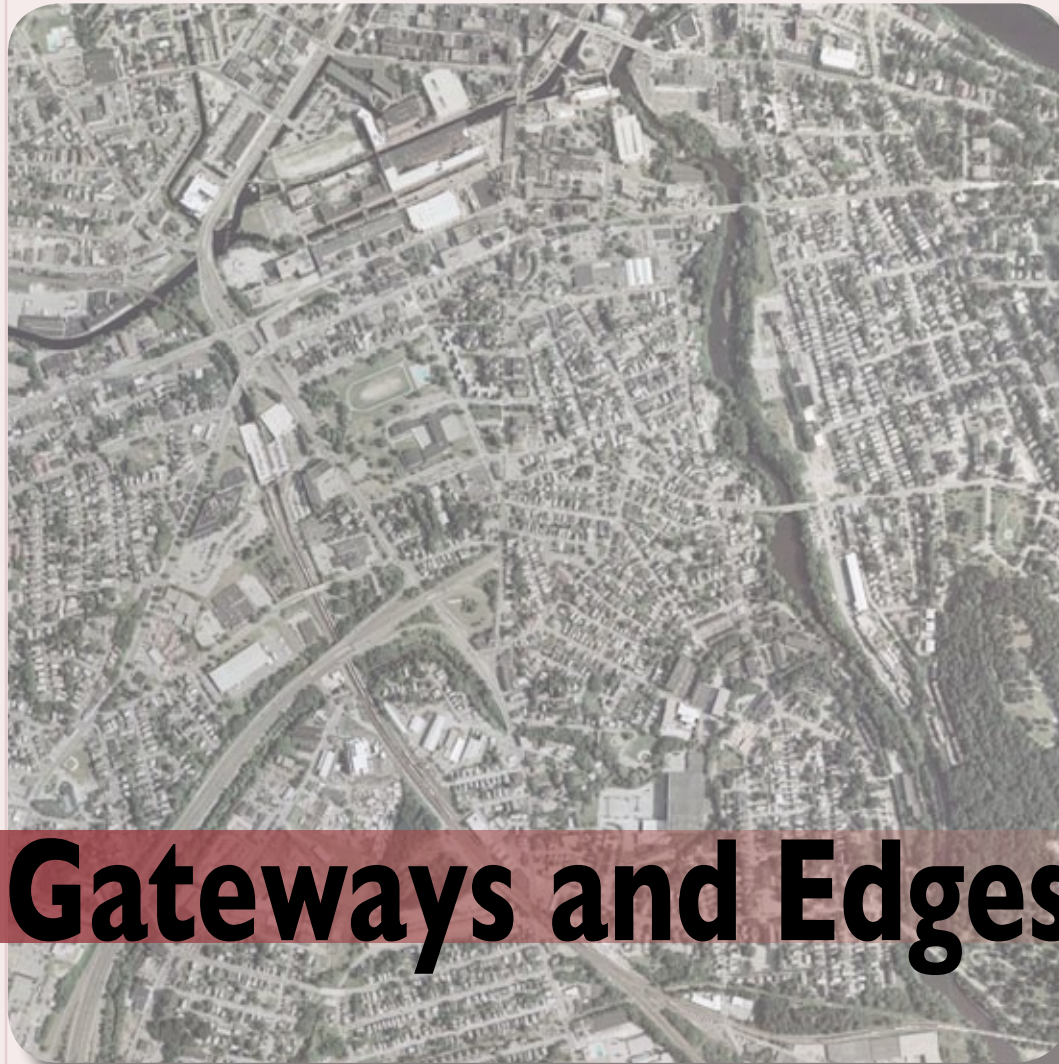


Figure 1.5. Back Central Referenced Catalyst Sites
(Source: Molly Ekerdt)



Gateways and Edges

Gateways and edges reflect the character of the neighborhood through its city-defined boundaries, and provide opportunities to both strengthen the image of the neighborhood and better connect it to the region, city, and adjacent neighborhoods.

An Edge can be a boundary that is either physical (railroads tracks, for example) or conceptual (a school district). Sometimes these boundaries are desirable, like in the instance of a street that demonstrates a distinct architectural character and helps to create a sense of place; and sometimes they are not, for example, in the northern part of Back Central where limited pedestrian access creates a physical and psychological barrier to walking into and out of downtown. A neighborhood is generally defined by its boundaries, and it is important to balance separation and continuity, so as to give the neighborhood a distinct identity while also keeping it connected to the city at large.

Similarly, a Gateway is a place that exists on an Edge, allowing access in and out of the neighborhood while celebrating its distinct character. Gateways are the best opportunity a neighborhood or city has to say, “you have arrived, and here is why you will love this place.” This can be physically accomplished through appropriate design, which might include signage, trees, benches, park space, and commercial activity.

Observations

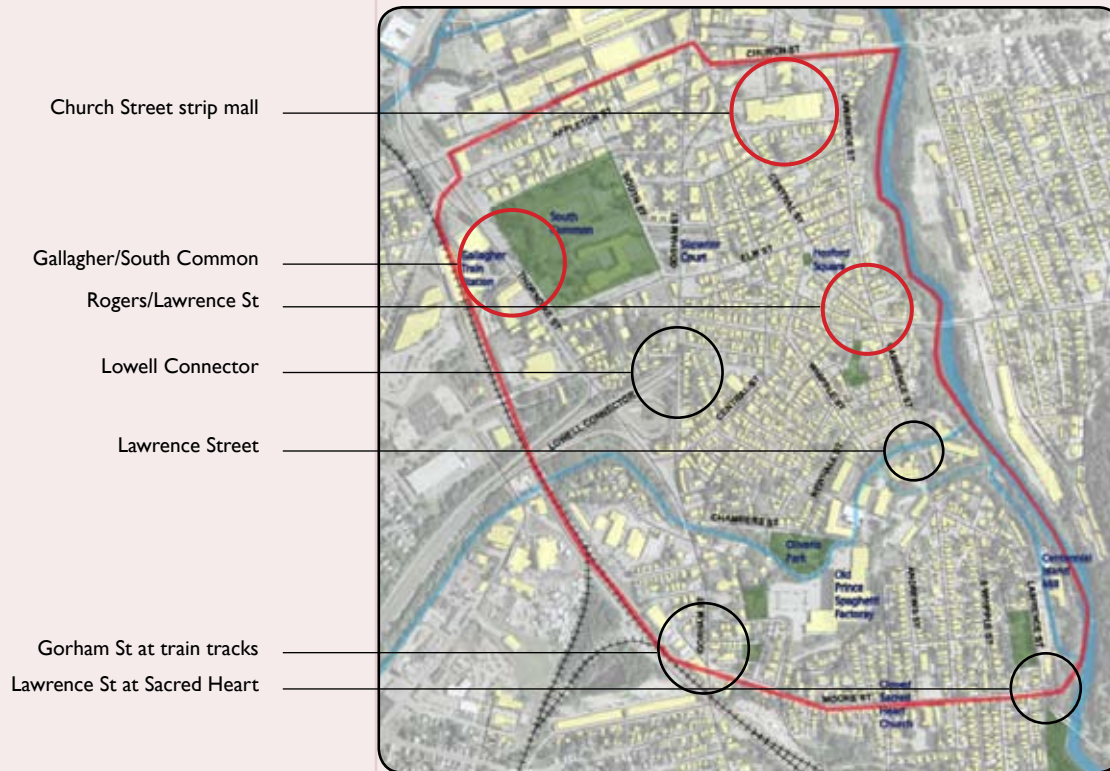


Figure 2.1. Identified Gateways and Edges of Back Central (Source: Lowell GIS, the Gateway Group)

Back Central borders important assets within the city, like Lowell's historic downtown, the new Hamilton Canal development, and the Gallagher Terminal bus and commuter rail station. In general, we think that more enjoyable, multi-modal connections to these assets will strengthen the Back Central neighborhood. We have identified seven primary Gateways and Edges for Back Central and developed specific proposals to turn three important barriers into more welcoming Gateways. We recommend the City explore all of these areas to see if they are, in fact, significant and if they merit shorter-term intervention.

Our three selected sites include South Common and the Gallagher Terminal, Back Central's connection to Downtown at the Church Street strip mall, and the complex intersection at Lawrence and Rogers Streets. Each of these represent a different type of gateway or edge with a different, but extractable, solution.

Major Recommendations



Figure 2.2. Sign on Thorndike Street at the Lowell Connector (Source: Trinity Simons)



Figure 2.3. Signage on rail bridge over Gorham Street (Source: Trinity Simons)



Figure 2.4 Lowell Connector signs (Source: Trinity Simons)

Gateways and Edges Major Recommendations

Create signage that is consistent and helps to brand Back Central as a unique neighborhood within Lowell. The signs can exist on light poles throughout the neighborhood, as is done downtown, and at identified gateways.

Connect Gallagher Terminal to Back Central by creating a new street through South Common.

Reimagine Center Plaza strip mall as Church Street Marketplace by focusing infill mixed-use development on Central and Charles Streets, and by reclaiming pedestrian and cultural activity spaces.

Simplify the Lawrence St/Wamesit St/Rogers St/Abbott St intersection at the east edge of Back Central, and render this gateway accessible and inviting to pedestrian traffic.

South Common and Gallagher Terminal

Goal: Allow South Common and Gallagher terminal to fulfill their true value: an economic engine for Back Central, Hamilton Canal, and Downtown Lowell.

Recommendations:

- One-way New Gallagher Street through the Southern portion of South Common, with places for people to sit and gather.
- A new entrance to the school facing New Gallagher Street.
- Redevelopment of anchor sites to West and East.

Signage and Identity

Signage can play a significant role in defining and promoting a neighborhood, as well as helping to direct movement into and through it. Signs and banners help to define the identity of a place, and can show its character, as well as its physical boundaries. The signage in Back Central is generally ad hoc, with no specific signage welcoming visitors into the neighborhood. Signs that do exist mostly consist of directing traffic through the neighborhood into downtown or ubiquitous “no parking” signs on yard fences, as can be seen in the following photographs taken around the neighborhood.

We recommend a set of well-designed signs, both for the boundaries and edges of Back Central (“Welcome to Back Central”), and decorative banners that hang on light poles or elsewhere within the neighborhood. These simple measures inform visitors and residents that Back Central is a unique place within Lowell and the region.

South Common and Gallagher Terminal

Existing conditions

Both South Common and Gallagher Terminal are considered peripheral to the neighborhood, and few neighborhood residents report using Gallagher Terminal. Several barriers exist for pedestrians in this area: high-speed four-lane Thorndike Street, narrow, poorly maintained sidewalks; crosswalk lights are slow to respond; the sidewalks along the Gallagher Terminal access road leave people exposed to buses entering the garage at high speeds. The entrance to South Common lacks signage; the walkway through the park stops at a fence. On all four sides barriers prevent a welcoming entry: Rogers Middle School to the South, Thorndike Street to the West, the steep slope to the North, and the pool to the East. Given these conditions, it is not unexpected that South Common is sparsely used even on the weekends.



Figure 2.5. South Common amphitheater (Source: Trinity Simons)



Figure 2.6. View of Gallagher train station at Thorndike Street (Source: Trinity Simons)

With improved access by foot and public transportation, Gallagher Terminal can serve not just commuters from Lowell, but commuters to Lowell's downtown and to the industrial and retail sites in Back Central.

Six Characteristics of Great Streets

1. Comfortable and imageable. A place with the appropriate seating, lighting, trees and signage that make the street both pleasant to walk along, while defining its edge. It must be visible from other streets, and transparent both in its use and its form.

2. Easy to access. It must be easy to get to the street, and to cross from one side to the other. It must also be easy to travel on, whether by foot or by other transport options, including both car and public transportation.

3. Reasons to walk through. It must have desirable destinations at both ends.

4. Reasons to stay. A great street has reasons to linger – views or shops, and places that make it easy to do so: benches, wide sidewalks, tree cover.

5. People to talk to. In a neighborhood like Back Central, a street needs to represent the character and heritage of the people. It must be a place not just for commuters, but for children and seniors.

6. Proper maintenance. Streets evolve over time. If they are poorly maintained, they get worse. If they are properly maintained, they mature.

Revisiting Gallagher

Despite poor existing conditions, if we remove these barriers and improve access, South Common and Gallagher Terminal can be an economic engine for Lowell. With improved access by foot and public transportation, Gallagher Terminal can serve not just commuters from Lowell, but commuters to Lowell's downtown and to the industrial and retail sites in Back Central. Better access to the trains and buses at Gallagher Terminal would reduce access costs and increase property values in the surrounding area. New businesses could be lured to the area, which increase tax revenue for Lowell, allowing the City to maintain existing capital infrastructure and provide more services to neighborhood residents. As more people use the train station, pedestrian activity will increase in Back Central, which makes it safer for everyone. Improving South Common and Gallagher Terminal access requires rethinking how people get to downtown and to the heart of Back Central from Gallagher Terminal. It requires us to rethink how South Common functions, and how it should function.

Creating Great Streets

By removing the barriers to the use of South Common, we remove the barriers to the use of Gallagher Terminal. This requires more than just creating new entrances to the park: it requires giving people reasons to go from one side of the park to the other. This requires a pathway that goes above the utilitarian. It requires a Great Street.

Gallagher Terminal, South Common and the surrounding Back Central neighborhood have the necessary assets to create this great street, given the proper investment. Namely, there are, or will be:

- Points to walk from and to. The train station to the East, and the Old St. Peter's Church site and soon to be vacant Courthouse to the West create anchors on both sides of the site. The RUK / furniture warehouse site by the train station is also a prime redevelopment anchor site. Hamilton Canal and Downtown to the North create other destinations by foot and trolley, and the Prince site to the South may also be a draw in the long term.



Figure 2.7. Aerial view of South Common with proposed street and trolley line to the north of Rogers Middle School (Source: Gordon Hansen, Google Maps)



Figure 2.8. Rendering of proposed street through South Common, serving Gallagher Train Station (Source: Gordon Hansen)

- Multiple means of transport. Plans to connect Hamilton Canal and downtown to Gallagher Terminal via trolley are in process. These plans currently skirt South Common, but have not yet been finalized
- Street activators. The children of Rogers Middle School have shown an interest in making their neighborhood a better place.
- Interesting sites along the way. South Common is an Olmsted Era park with beautiful mature trees, and great views of the churches and steeples of Lowell. Highland Street has some of the oldest buildings in Lowell.
- A commitment to improve pedestrian infrastructure. The City is currently planning improvements for a number of the routes from Hamilton Canal to Gallagher Terminal. This commitment is an asset to Back Central.

We propose a New Gallagher Street that will run through the Southern portion of South Common from the Gallagher terminal Access Road

Making the connection

We propose a New Gallagher Street that will run through the Southern portion of South Common from the Gallagher terminal Access Road, following the current pedestrian path to the school parking lot, through the parking lot, and letting out on Father Ronan Terrace. We propose that this street be one-way for vehicle traffic from West to East, forming a one-way pair with Highland Street. The one-way designation would preserve New Gallagher for walkers, buses and trolleys headed toward Lowell, rather than as a thoroughfare for commuters from Lowell. We propose that the new trolley line run along a dedicated roadway on New Gallagher Street. Wide sidewalks will encourage pedestrians to gather and sit; benches can face away from the road toward the rest of South Common. New Gallagher Street will serve as the new access to South Common from both the East and West.

A successful New Gallagher Street will need to be active. We propose re-orienting Rogers Middle School, so that a second entrance faces South Common. The school can use South Common, and New Gallagher Street would benefit from proximity to lively school children. We also propose that the City investigate a restoration of South Common to improve access and use. This should be thought of as an investment in both infrastructure and programming: the infrastructure improvements create the opportunity for people to begin using the park again, while the planned activities (sports, fireworks, farmers markets, etc.) give them the reason. The entire plan of the park should be considered, including removing the public pool on the West side, which creates a barrier to park use for much of the year.

If plans for New Gallagher Street proceed, it needs to be considered in the context of the surrounding streets. We recommend pedestrian improvements including sidewalk reconstruction and tree planting along South Street, Father Ronan Terrace and Hobson Street, as well as along Thorndike Street. We also recommend the creation of a new four-corner crosswalk at the intersection of New Gallagher Street and Thorndike Street, with improved signal timing for pedestrians.

Maintaining a Connection to the Community

Lowell has two challenges that might be solved with the implementation of a single program: it needs job opportunities and training for its youth, and lacks organized community beautification efforts, such as those proposed along a New Gallagher Street in South Common. The City of Lowell can partner with a community-based organization to seek funding from the Massachusetts Office of Workforce Development, to pilot a program similar to a Youth Urban Conservation Corps. The Corps would employ local youth to care for trees, clean up litter and illegal dumping, as well as provide home maintenance assistance to the elderly. Their efforts for beautification might catalyze other volunteer efforts, and instill an ethic of community cooperation and beautification in future generations. Possible funding sources include foundations or public programs (e.g. Youth Workforce Investment Act or 4-H). Interesting local models include Groundwork Lawrence (Lawrence, MA) or Protectores de la Tierra at Nuestras Raices in Holyoke, MA.

Evolving uses of anchor sites

There are redevelopment opportunities on both sides of the proposed New Gallagher Street that need to be considered as part of the effort to reconnect Gallagher Terminal to the neighborhood and the rest of Lowell. The site of the former St. Peter's Church has the possibility

of creating a grand entrance to the center of the neighborhood, but any development on the site must be sensitive to the role that St. Peters Church played in the neighborhood. With its Urban Mixed Use zoning designation, any use large enough to make development profitable already requires either Site Plan or Planning Board review.



Figure 2.9. Rendering of proposed entry to new street along South Street (Source: Gordon Hansen)

The Furniture outlet site adjacent to Gallagher Terminal is an historic and beautiful building that is not currently being used to its full advantage. Restoring the interior of the building to accommodate housing or commercial development would permit higher rents and make better use of this valuable real estate. Train stations are a locus of activity; a bustling ground floor of the building would improve the

experience for commuters to and from Lowell, and provide an attractive shopping asset to the neighborhood. Even small, unique businesses benefit from the combination of commuters and local foot traffic. The parking lot on the western portion of the site could be replaced with a building and public garden protected from Thorndike Street. The city can incentivize development at this site by increasing the current



Figure 2.10. Rendering of proposed entry to new street along Thorndike Street (Source: Gordon Hansen)



FAR 4 limit on the site, subject to redevelopment standards and the creation of a public space on the first floor. Furthermore, we recommend that the City and developer work together with the MBTA to set up a shared parking arrangement in the MBTA's garage. The uses of these buildings are complementary, so that any necessary parking for the site is likely to reach its maximum use when there are no Lowell to Boston commuters in the lot.

Process

The measures proposed in this section are not without controversy, and appropriate care will be necessary if the City is to proceed. Any restoration of South Common must be made in consultation with the neighborhood. While we believe that historical renovations to the original Olmsted era plans may be appropriate, an increase in the number of football or soccer fields, or some other use may also be desired by neighborhood residents, and would help to encourage use of the park. For New Gallagher Street, the major adjacent stakeholders must be consulted; appropriate incentives should be given for the right development at the right time to ensure anchor destinations at both ends of the new street. While the extension of the trolley line across South Common may be a funding source, it must be used as an impetus and catalyst for the other components of the improvements to this area.

Central Plaza/Church Street Marketplace

Existing Conditions

At present, the Church Street strip mall seems misplaced; indeed, it exists as a typical suburban strip mall within a dense urban setting. As such, there is a glut of impervious-surface parking and underused open space. The First United Baptist Church is rendered an island amid a sea of open asphalt.

The intersection of Charles and Central Streets is much more an edge than a gateway to the neighborhood. One might look only at the street trees and brick sidewalk along Central Street south from downtown--they both stop abruptly at Charles Street. The strip mall acts similarly, as it exposes its blank backside to the houses on the south side of Charles Street, and offers only a fenced-off loading dock to Central Street.

Today, the automobile is the primary occupant of these spaces, and it seems that more recent infrastructure and design decisions have only reinforced this notion. Adjacent to the mall, overly generous curb cuts and right hand turn lanes appear at the intersection of Gorham and Church, discouraging pedestrian movement along this corridor. For ease of vehicular access to downtown, the gently-curving Veterans Way has bypassed Charles Street. This, in conjunction with

a one-way-north Central Street, psychologically blocks historic neighborhood access, and emphasizes automobile traffic over pedestrian walkability. It is especially jarring given that traffic along Veterans Way is inappropriately fast for the neighborhood-urban setting. Given these impediments, local access to Charles St and other local destinations is maintained by innovative necessity: cars often turn right through a convenience store parking lot near the old corner of Gorham and Charles Streets.

A reimagined Church Street Marketplace could entice foot traffic from downtown Lowell into Back Central, helping out existing local businesses while encouraging alternate modes of transportation.



Figure 2.11. Wide curb cuts lessen pedestrian connectivity (Source: Trinity Simons)



Figure 2.12. Entry into Downtown is not welcoming to pedestrians (Source: Trinity Simons)

Central Plaza/Church Street Marketplace

Goal: Implement a master plan for the redevelopment of the Church Street strip mall that refocuses on the adjacent neighborhood intersection of Charles and Central Streets, in order to provide seamless entrance into Back Central as well as a viable local and regional destination.

Recommendations:

- Low: Infill development at Charles and Central Streets; designate parking access ways as named streets; Reopen Charles Street between Gorham and Central Streets, Reduce speed limit on Veterans Way, Reclaim Chapel Street Extension and parking area as pedestrian/Armenian Memorial space
- Medium: Add infill mixed-use development at VNA site with shared structured parking,
- High: Reroute Veterans Way/Gorham traffic to Charles and Central Streets, with reduced speed limits; Reclaim Veterans Way as park/event space.

Reconnect the neighborhood to the city. “Infill”

developments are new buildings that are constructed on vacant sites within a city’s existing built fabric. We find that it is for the wellbeing of the neighborhood that gaps imposed on Central Street by the existing Church Street strip mall be “filled-in.” Such development creates a strong sense of community continuity, both by reconnecting Back Central to downtown Lowell, as well as celebrating traditional neighborhood design values.

Engage the neighborhood through design.

The Church Street Marketplace should face its patrons, and any new infill buildings should refocus the attention on Central Street. New buildings and renovation of existing buildings should focus on pedestrian traffic first, then automobile access. Infrastructure (road and street) design should slow traffic so as to make the area safer for pedestrians.

Engage the neighborhood through activity.

The Church Street Marketplace should offer places of public gathering and cultural identity, ideally in association with nearby social clubs. Reclaimed pedestrian and park space should be open and accessible to all. Infill development would reenergize Charles Street with outdoor cafes, planters, and other attractive amenities.

Potential Value

The site is highly desirable and valuable, both for its location and its opportunity to engage the neighborhood. As an under-developed segment of Back Central that borders directly on downtown Lowell, the Church Street strip mall (hereon referred to as Marketplace, to invoke a sense of urban excitement) the site is ripe for rethinking. The potential value of the Marketplace lies in its ability to reconnect Back Central to downtown Lowell, knit the urban fabric of the north end of the neighborhood, and enhance existing social and cultural activities.

As an economic engine, a reimagined Church Street Marketplace could entice foot traffic from downtown Lowell into Back Central, helping out existing local businesses while encouraging alternate modes of transportation. Further, the Marketplace could also house smaller shops that would otherwise not thrive in Back Central; but with traffic from both downtown and Back Central could remain viable and available to both markets.

As a local innovation, a new Church Street Marketplace mixed-use development with integrated structured parking could mitigate local traffic and parking problems.

Finally, as a destination for cultural and social events, the Church Street Marketplace could offer a larger facility for the nearby Portuguese Association, as well as fairs and other street events in a proposed expanded Armenian Memorial/Veterans Park.

The Vision

Our visionary scenarios build upon one another, and are designated “Low,” “Medium,” and “High” to highlight these various levels of redevelopment.

“Low.”

In these first few steps, the primary focus is on street improvements and setting the stage for future development. As seen in the rendering, we propose reopening Charles Street as a one-way conduit between Gorham and Central Streets, offering official access to the neighborhood and relieving the convenience store parking lot traffic. The Chapel Street extension and the adjacent parking areas would be reclaimed as pedestrian park space and an expanded Armenian Memorial; and parking would be provided along the new one-way Charles Street.

New signage and a branding campaign would attract visitors to the “Church Street

Marketplace,” and parking access ways (currently named Tyler and George Streets) within the site would be upgraded to actual streets, complete with sidewalks and other pedestrian amenities. This small street improvement investment could pay off handsomely, as private developers may take it as a sign of future civic interest and value.

In this low scenario, we also envision a small infill development at the intersection of Charles and Central Streets (at the current loading dock). This would help to cement that intersection as a significant site in the neighborhood, and offer a view down new Charles Street of investment and promise.

“Medium.”

Adding to the “Low” scenario, we envision a mixed-use development on the site of the VNA (with the potential to rehouse it). The new building would ideally incorporate shared structured parking in order to adequately replace the parking spaces lost in construction, as well as to mitigate the pressing neighborhood parking problem. In terms of design, the development would ideally fit in with the historic character of the neighborhood--being careful not to overshadow the existing church--while adding more sustainable elements, such as a green

(planted) roof. More infill development would be encouraged along Charles Street. The more suburban character of the Marketplace would be maintained on the Easterly side of the church.

“High.”

In this full build-out scenario, we propose rerouting calmed and slowed-down Gorham Street traffic onto one-way Charles and Central Streets. We also propose adding a traffic signal at the Charles/Central intersection. This rerouting allows the high-speed Veterans Way to be reclaimed as a new public space accessible to

both downtown and the neighborhood. Central Street would now be the appropriate symbol of unhindered and welcoming access to Back Central.

Process

First and foremost, we recommend that the City develop a long-term master plan for the Church Street Marketplace with the help of its owners. Many of the proposals outlined above are possible, but only with full cooperation and agreement among all stakeholders. It may also



Figure 2.13. Church Street strip mall as exists today
(Source: Windows Live)



Figure 2.14. “Low” Option Build-Out (Source: Gordon Hansen)

be useful for the City to offer development incentives for sustainable and neighborhood-sensitive design. It should be noted that the site's current zoning need not be changed in order for redevelopment to occur.

Regarding infrastructural changes to Veterans Way, Charles Street, and Central Street, we recommend that a formal traffic study be advertised. There are many benefits of a rerouted Veterans Way, but a thorough traffic analysis and stakeholder inventory is necessary to enact changes.

Finally, it is imperative to engage the nearby social clubs (e.g. the Portugese Association) in any master planning process. They already are a major destination in this part of the neighborhood, and could be a driver of change in the new Marketplace if included on discussions of cultural amenities and new structured parking.



Figure 2.15. “Medium” Option Build-Out (Source: Gordon Hansen)



Figure 2.16. “High” Option Build-Out (Source: Gordon Hansen)

Lawrence St / Rogers St / Wamesit St / Abbott St Intersection

Goal: Increase vehicle and pedestrian safety at a dangerous intersection, which enhancing a sense of neighborhood permeability.

Recommendation:

Catalyst sites need not be major interventions. They can instead focus on smaller changes to traffic patterns and pedestrian access that improve the legibility and safety of the neighborhood. The agglomeration of these small changes can be more than the sum of their parts. While we focus on one intersection in this section of the report, there are similar places throughout the neighborhood to which similar thinking might apply, including the intersection where Andrew and Agawam Streets meet Lawrence Street, and the Moore Street / Gorham Street / Dix Street intersection near the railroad bridge in the Southwest corner of the neighborhood.

Lawrence St / Rogers St / Wamesit St / Abbott St Intersection

Existing conditions

The intersection in question, at the corner of Rogers, Wamesit, Abbott and Lawrence Streets (the “Rogers Street Intersection”) doesn’t have either the promise or the value of the other catalyst sites. As a retail center it is not overly attractive, but it is functional: businesses exist on all 5 of its corners. The Rogers and Wamesit Street pair functions as a major auto route from the South and East to Gallagher Terminal and downtown, while Lawrence Street is one of only two North-South connections between Sacred Heart and Back Central. This sites role is thus one of image and functionality, more so than as a catalyst for the development of the neighborhood.

Because it is the intersection of 5 streets that do not meet at anything like right angles, traffic appears to back up frequently at the Rogers Street intersection. Moreover, adjacent business owners mentioned that when coming from Rogers Street, visitors frequently take the very small and residential Abbott Street rather than their intended route: Wamesit Street. The bollards on the corners of the streets point to existing problems with passing vehicles coming dangerously close to buildings. These safety issues are indicative of the identity this intersection projects on the neighborhood: a place that is difficult to understand; that is foreign or “other”; that privileges automobiles over pedestrians, moving through rather than moving in.

Vision

Given these issues, we propose more study be given as to how to simplify the Rogers Street intersection to improve both safety and legibility, and add positive associations to Back Central’s identity. We have prepared an illustrative drawing of changes that could be made to this intersection,



Figure 2.17. Intersection as exists today (Source: Trinity Simons)



Figure 2.18. Intersection is not welcoming to pedestrians (Source: Trinity Simons)

Catalyst sites need not be major interventions. They can instead focus on smaller changes to traffic patterns and pedestrian access that improve the legibility and safety of the neighborhood.

Principles for Intersection Development

- Aim for simplicity. Both pedestrians and cars understand their roles better at 4-way intersections.
- Create direct pedestrian crossings that have clear sightlines to approaching cars in all four directions.
- Create marked and visible crosswalks for pedestrians.
- Give preferential treatment to the main traffic flow. Adjust signal timing as needed to privilege that flow, keeping in mind pedestrian flows as well.
- Place signage in visible and appropriate places. Consider signage that not only directs vehicles to their intended destinations, but also creates an identity for the neighborhood.

Our proposed intervention creates a blockage at the end of Abbott Street, so that it dead-ends before it reaches Lawrence Street. Local traffic on Abbott Street can be accommodated from Central Street. We propose to extend curbs and crosswalks so that there is a modified 4 way intersection, rather than an indirect 5 way intersection. We observed the majority of traffic on the East/West axis. Pending a traffic study to confirm this observation, signal timings should be adjusted to privilege this direction. The small signs directing vehicles to Gallagher Terminal at the corner of Wamesit and Lawrence should be made more prominent, and an additional “Welcome to Back Central” sign be added, to create the image of neighborhood transparency.

Implementation

Implementation of these suggestions will not be without compromise. Among other changes, we have proposed eliminating the parking lot adjacent to the bar on the Northeast corner. We did not consult the business owner or the rest of the neighborhood about the desirability of changing the use of this space. While our proposed changes would require some small reduction in land, one can imagine that the complete removal of this parking area would meet resistance from the business owner. If

this idea were to be pursued, an appropriate compromise might involve the city repaving the area with permeable pavers that allow small plants to grow, considering the paucity of daytime use of this lot for parking, and the availability of parking on the other side of the bar.

Figure 2.17. Rendering of proposed street improvements (Source: Gordon Hansen, Windows Live)





Streets and Access

The purpose of this section of the plan is to suggest improvements for the physical streetscapes along all the roads within the Back Central neighborhood. In our definition, to ‘improve’ means to:

- make Back Central streets more safe and comfortable for pedestrians;
- reduce traffic speeds;
- introduce more street amenities like trees and benches;
- improve the parking situation; and
- reestablish the character of Back Central.

Unfortunately, all of these solutions have one factor in common: they need space. In that regard, all the solutions posed will need to be evaluated as a series of trade-offs between each other. Back Central is a tightly built neighborhood with little room to grow between houses and streets. Due to these space limitations, we recognize that there is no easy fix for streets in this neighborhood.

Existing Conditions

The streets and parking challenges within the Back Central neighborhood are significant. Back Central streets were designed before cars existed, and are now uncomfortable and dangerous to walk and drive on. While parking is both difficult and haphazard, Back Central has a lower density of cars than most of Lowell. Many residents display “no parking” signs in their driveway in hopes that vehicles won’t illegally block their driveway access. Narrow streets mean that cars park on the sidewalks, obstructing the path for pedestrians and blocking wheelchair access.

It is clear that residents of the neighborhood demand a high quantity of on street parking. Yet, they also seek an increase in the size of sidewalks and number of street trees. These options are at odds with each other. The only way to have both a large number of trees, wide sidewalks and parking spaces would be to take front yards from homes - a solution which no one thinks is proper.

While narrow streets are problematic for parking, they also slow down traffic to safe levels. Speeding along the major thoroughfares in Back Central is a recognized problem. Improvements can be made both in the visual quality as well as the way car and pedestrians use the streets. The neighborhood deserves an improved street network to help bring back the vibrant character of Back Central.



Figure 3.1. Typical residential street in Back Central
(Source : Deb Guha)

Recommendations

The following recommendations are based on the notion that the City and the residents will need to decide on a street-by-street basis which factor is the primary driver for them. There are options that maximize parking, and those that maximize amenities. Difficult choices will need to occur in order to successfully implement these recommendations.

The focus of these recommendations is on two types of streets in Back Central. The neighborhood streets can be split up into three types (arterial, collector and residential). We have chosen to focus on only collector and residential streets because they make up the vast majority of streets in the neighborhood. Arterial streets are less likely to change due to the high traffic volumes.

With each recommendation we have included a matrix that evaluates the option based on its impact on: parking availability, street tree coverage, traffic direction, vehicle speed, and cost. As these general options are examples to inform future decisions, the actual impact will depend on the specific conditions of each individual street.



Figure 3.2. Typical street parking in Back Central
(Source : Cha-ly Koh)

Types of Streets in Back Central

Arterial Streets are the major roads of the city, and the ones drivers use to pass from Back Central into other neighborhoods. These streets are very wide and have a high volume of high-speed traffic. They are Appleton St, Central St, Chapel St, Chelmsford St, Church St, Gorham St, Lawrence St, Thorndike St.

Collector Streets are those that permit through traffic within the neighborhood. They house most local businesses, and are seen as the major streets within the neighborhood. Collector streets are generally wider than residential streets, and have buildings set further back, allowing for a greater level of intervention.

They are Abbott St, Agawam St, Andrews St, Chambers St, Charles St, Elm St, Highland St, Linden St, Livingston St, Moore St, Newhall St, Rogers St, South St, Summer St, Tyler St, Walnut St, Watson St, Whipple St.

Residential Streets are the small, local streets of the neighborhood. These streets are skinny (only 35' wide), often one-way, and have primarily homes. These are the streets that people should feel comfortable walking on, which the parking situation currently precludes. These streets should not be used for through traffic, so any improvements should be mindful of that fact.



Figure 3.2. Types of Streets in Back Central
(Source: City of Lowell, Cha-ly Koh)

Collector Streets - Basic

This option requires the least physical alteration of the public right-of-way. The primary goal is to preserve the current amount of on-street along both sides of the street.

By converting into a one-way street, adequate space is provided on the road so that it is not necessary for parked cars to block the sidewalk.

This allows a clear path for pedestrians, strollers, and wheelchairs on the current 7.5' sidewalks. Sidewalks of this width do not allow adequate space for street trees without blocking sidewalk access.

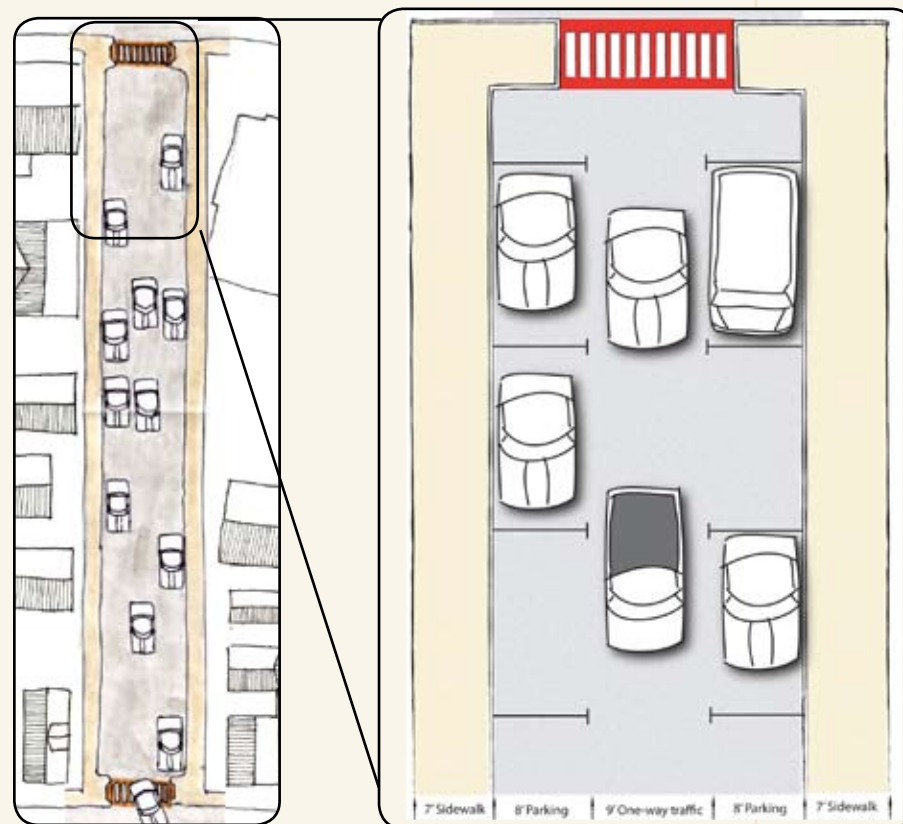


Figure 3.3. Full block and zoomed plan (Source : Cha-ly Koh)



Figure 3.4. Illustrated example of basic option (Source : Cha-ly Koh)

On-Street Parking	Preserves all existing parking.
Tree Coverage	No trees added.
Sidewalks	Preserves existing 7.5' sidewalk width with improved pedestrian access by removing cars.
Traffic Direction	Requires one-way traffic to allow enough space for on-street parking.
Traffic Speed	No significant reduction. Speed can be reduced with optional pedestrian improvements at crosswalks.
Cost	Minimal. Will increase slightly if optional pedestrian crosswalk improvements are included.

Collector Streets - Angled Parking

This option introduces a traffic-calming feature by diverting traffic from the west to east side of the street in the middle of the block. By having this diversion, we can avoid dangerous speeding along collector streets at night, making the area far safer for pedestrians. The alternating locations for parking spaces from one side of the street to another also provide equal access to both sides of the street. This design also retains the two way traffic that is important in collector streets to bridge traffic between the arterial streets and the residential streets. In terms of the street trees, the street would have an overall visual impact of a double lined trees without having trees planted on both sides of the street.

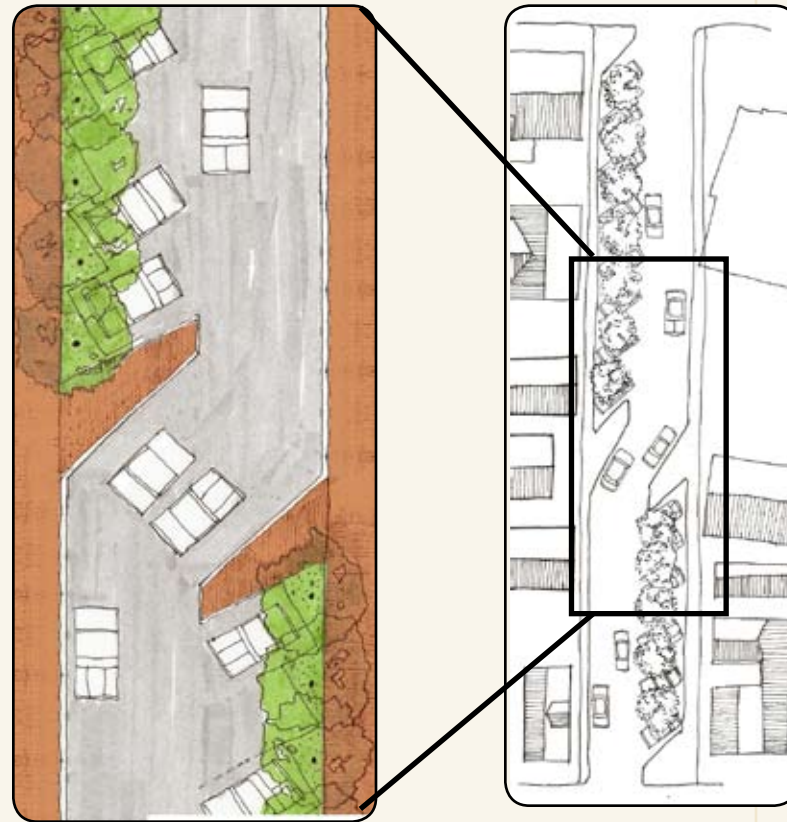


Figure 3.5. Full block and zoomed plan (Source : Cha-ly Koh)

Figure 3.6. Illustrated example of angled design (Source: Cha-ly Koh)



On-Street Parking	Angled parking reduces current number of spaces by approximately half.
Tree Coverage	Adds trees to alternating sides of the block for visual impact of tree-lined street.
Sidewalks	Reduces to 6' sidewalks with pedestrian path unblocked by cars.
Traffic Direction	Preserves two-way traffic.
Traffic Speed	Reduces speed by creating visual barrier for drivers.
Cost	High. Requires significant reconstruction.

Collector Streets - Levelled Design

This option maximizes the number of street trees on both sides of the block. The street trees act to define the legal on-street parking spaces. It places a strong emphasis on leveled access for pedestrians with bollards that distinguish the pedestrian areas apart from parking. This design retains the two way traffic that is important in collector streets to bridge traffic between the arterial streets and the residential streets.

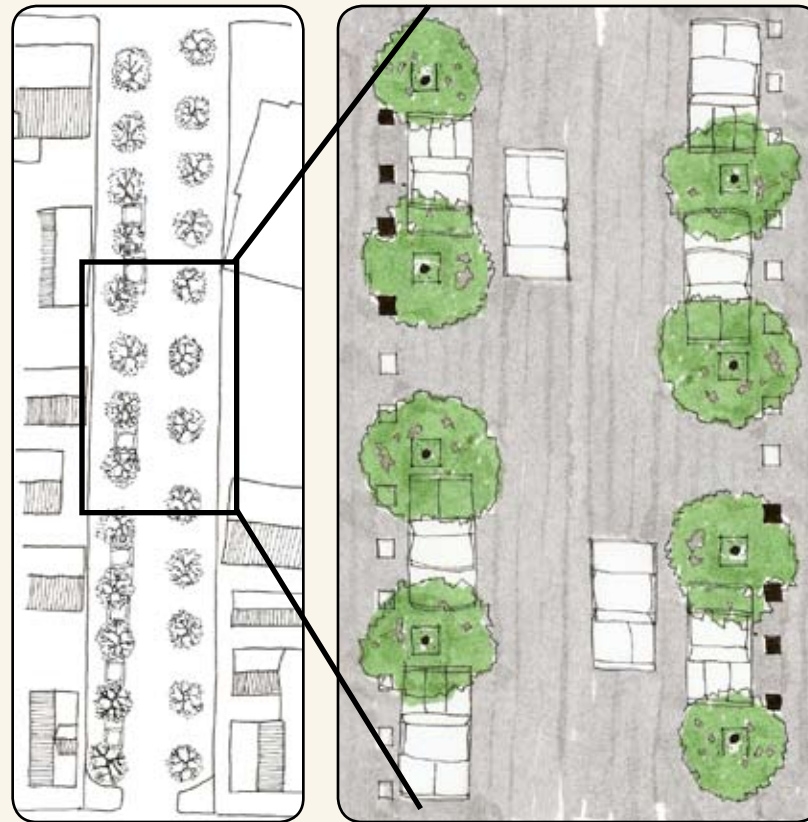


Figure 3.7. Full block and zoomed plan
(Source : Cha-ly Koh)

Figure 3.8. Illustrated example of leveled design (Source: Cha-ly Koh)



On-Street Parking	Reduces parking slightly by introduction of trees to define parking space.
Tree Coverage	Adds a significant number of trees along both sides of the street.
Sidewalks	Reduces to 5' sidewalks with bollards to prevent cars from blocking pedestrian path.
Traffic Direction	Preserves two-way traffic.
Traffic Speed	Narrow travel lanes force significant speed reductions.
Cost	Medium. Most cost for leveling right-of-way, installing bollards and trees.

Collector Streets - Curved Calming

This option prioritizes pedestrian and bicycle access while providing a minimal amount of space for the introduction of street trees. The curved curb on one side of the street serves two purposes: forcing through-traffic to reduce speed by creating a visual barrier for drivers, as well as providing a series of 4' curb extensions for trees. In order to preserve half of the current on-street parking spaces, the opposite curb will retain its current 7.5' width.

While this does not provide more space for trees, it does allow a clear path for sidewalk traffic. In order to prevent traffic from ignoring the curved driving lane, a textured parking lane and a painted bicycle lane are included as visual markers to denote areas that are not intended for through-traffic.

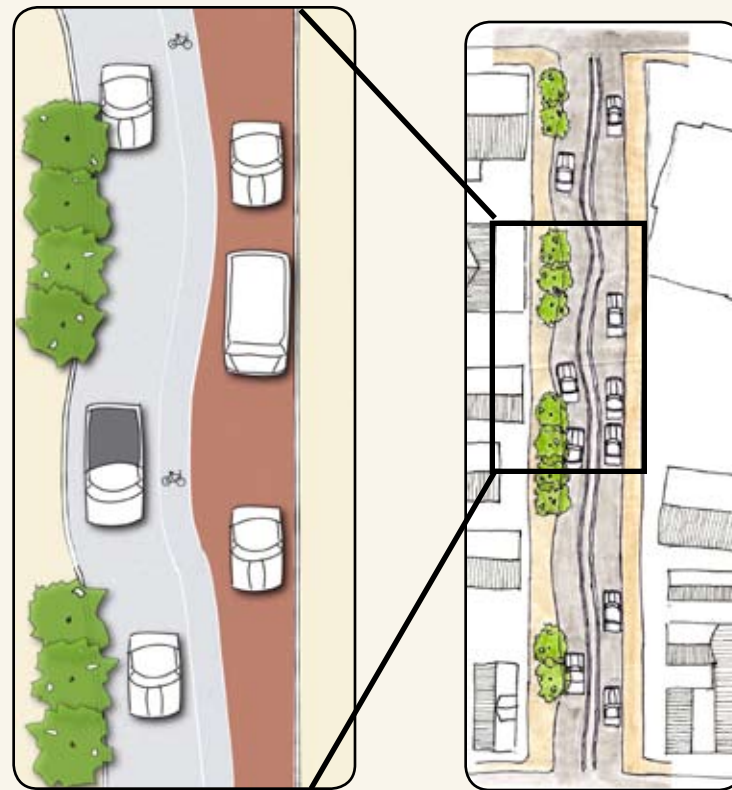


Figure 3.9. Full block and zoomed plan
(Source : Cha-ly Koh)

Figure 3.10.
Illustrated example
of curved design
(Source : Cha-ly Koh)



On-Street Parking	Reduces parking availability to approximately half.
Tree Coverage	Medium number of trees along one side of the street.
Sidewalks	7' – 11' sidewalk on tree side, consistent 7' path on opposite side.
Traffic Direction	One-way.
Traffic Speed	Significant reduction – narrow travel lane and bike path create visual barrier for drivers.
Cost	High. Significant investment for curved sidewalk, parking-lane material, and new trees.

Residential Streets - Two-way slow street

Two Lane Traffic Calming

This option proposes minimum intervention and requires less space. It proposes to maintain the existing two-way traffic, but reduce the width of the road to approximately 18' from the present 23'.

Traffic calming measures are adopted by introducing chicanes (sidewalk bulges). This reduces the driveway to 15' at places and introduces slight turns that force drivers to reduce the speed. The number of curves and pinch points depend upon the desired vehicular speed and length of the street. The chicanes also help to organize the parking and cars are parked parallel to the curb in one side of the street.

The space created on the sidewalks are planted with two types of trees. One being trees with large canopy and other are smaller trees that take less space. Benches and other street furniture are also used.



Figure 3.11. Full block and zoomed plan
(Source: Deb Guha)

Figure 3.12. Illustrated example of two-way slow street design
(Source : Deb Guha)



On-Street Parking	About 70% of existing parking.
Tree Coverage	Adds trees to alternating sides where sidewalks are increased to create pinch-points. Smaller shrubs are added where the sidewalks are narrow
Sidewalks	Retains existing 7' sidewalk, but also increases it at places to 13' or reduces to 5'.
Traffic Direction	Preserves two-way traffic.
Traffic Speed	Decreasing the average road width to 18' restricts traffic speed. Further narrow 15' wide pinch- points are along with curves are introduced to further reduce the speed of the vehicle. Desired speed level can be achieved by varying the number of curves.
Cost	Minimal as it only adds or reshapes some of the side walks.

Residential Streets - One-way street

Residential Streets – One Lane

In this option the street is converted in to single lane, one-way street. The width of the street is reduced to 13.5' to permit only one-way traffic. Sufficient curves are introduced such that the car driver is forced to slow down. The frequency of the curves depends upon the desired velocity of the vehicles. This increases the space for foliage on the streets. And different variety of trees and shrubs can be introduced. The green spaces can be used as neighborhood public spaces with proper benches and lights.



Figure 3.13. Full block and zoomed plan
(Source: Deb Guha)

Figure 3.14. Illustrated example of one-way street design (Source: Deb Guha)



On-Street Parking	About 60% of existing parking.
Tree Coverage	Adds more trees to all sidewalks as they are wider. In the places where the sidewalks are extra wide, benches and other street furniture can be accommodated.
Sidewalks	The sidewalks are 10' on one side and 5' on the other. At points where the road is bending, it is 15.5' on one side.
Traffic Direction	Requires one-way traffic.
Traffic Speed	Decreases the road width to 13.5' to allow only one-way travel. Curves are introduced to reduce the speed of the vehicles. Desired speed level can be achieved by varying the number of curves.
Cost	Medium, as it adds or reshapes most of the side walks .

Residential Streets - Shared street

Residential Streets – Shared

This is a bold and innovative idea, which has been successfully applied in many places like Japan, Denmark and Britain. In this case the whole street is constructed at the same level (no curbs). Rather than asphalt, materials like brick are used to achieve a plaza-like atmosphere. Lot of trees and benches and other street furniture are used.

Cars are allowed with restrictions. The speed limit is very low and has to give priority to pedestrians. This idea converts the streets into a plaza space instead of just a road.

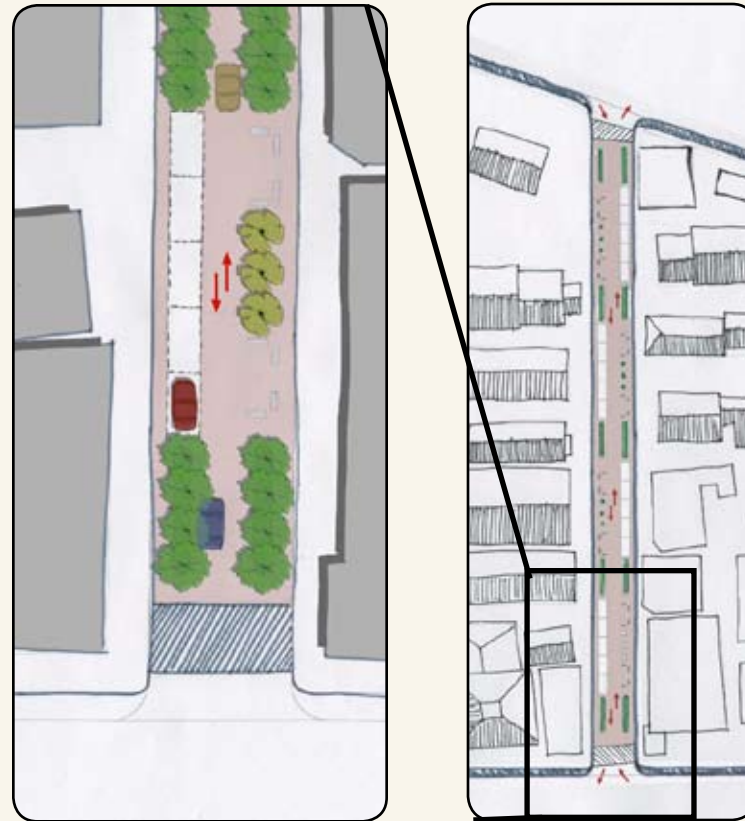


Figure 3.15. Full block and zoomed plan
(Source: Deb Guha)



Figure 3.16. Shared street Woonerf, Holland.
(Source :Portland Courtyard Housing Competition)



Figure 3.17. Shared street Japan.
(Source :Portland Courtyard Housing Competition)

On-Street Parking	About 50% of existing parking.
Tree Coverage	Adds many more trees, benches, and other street furniture.
Sidewalks	No demarcated sidewalk or road.
Traffic Direction	Requires one-way traffic, however, two-way can also be accommodated.
Traffic Speed	Very slow, as cars will have to give priority to pedestrians.
Cost	High, as it will involve complete resurfacing of the road.

Parking Management

In Back Central, there are more cars than there are spaces directly in front of homes. That means that some vehicles must be parked off the street, or not directly in front of the home to which they belong. With the possibilities suggested above, this problem will be compounded by a lack of space.

Many Back Central residents currently use unofficial or expired signs to reserve the parking in front of their house. This practice does not work because it creates expectations about the location and availability of on-street parking that cannot be met by available space. A new program is needed that allows all residents fair access to public parking. In order to accomplish that, we suggest a parking permit plan to work in conjunction with the physical improvements suggested above.

The permitting system proposed would have two levels of permits in order to reward those who are willing to park off street, and just slightly further from their homes. One type of permit would be for parking directly on the street, in designated spaces. The neighborhood would be broken into smaller entities in order to create less demand for spaces. Those who chose to obtain this permit would pay a small monthly fee in order to cover costs for street improvements. It would permit residents to park directly on the street on which they live.

Those not opting for this permit would be assigned to off-street lots. These off-street parking lots could be located at currently vacant or underutilized locations. These locations would include abandoned lots, city-owned lots, or current parking lots that are not used after business hours (such as near some Back Central businesses). There are enough of these in Back Central that parking would never be more than 1/10 of a mile from homes. This second level of permit rewards people who are more willing to park further from the home and help to improve the parking situation in Back Central as a whole by not charging them.

Households would also be charged an increasing amount per vehicle for each permit obtained under the plan. This would be in order to keep the total number of vehicles in Back Central as low as possible. Finally, there would be no charge for parking on private property, as that would also keep cars off the public streets.





Green Space

One essential feature of a vibrant, enjoyable community is that the built environment is integrated with its natural setting, so that residents can regularly access the outdoors and enjoy the benefits of healthy surroundings.

There are numerous ways to enhance green space and natural attributes within an urban setting, and numerous benefits from doing so. Greening a neighborhood includes the physical preservation and decontamination of natural features such as lakes and streams. It includes small-scale beautification elements, such as street container plantings and gardens in publicly accessible settings. An extensive tree canopy can help relieve environmentally oppressive urban features such as the heat island effect, noise pollution, and stormwater flooding. And importantly, an emphasis on “urban” nature includes environmental services that are necessary for the region as a whole, such as restoring groundwater through pervious pavement, and maintaining habitat for native plant and animal species, especially during migration and breeding seasons.

Observations

Back Central has a large number of existing natural assets. The Concord River, dubbed Lowell's "hidden jewel," borders the neighborhood to the east. Its Class III rapids provide recreation opportunities during the summer, and enjoyable scenery for adjacent homes year-round. This local amenity will be enhanced by the Concord River Greenway Project, an effort of the Lowell Parks and Recreation Trust and the City of Lowell (among others), which includes a trail along the east bank of the river. An important goal for the Back Central neighborhood is to plan connections to this east bank trail, and to increase access to and visibility of the Concord River along Lawrence Street. The River Meadow Brook is also an underutilized natural asset of the neighborhood, and has significant potential for reclamation, particularly in ways that highlight Back Central's unique identity. The 2003 Lowell Master Plan underscores the importance of enhancing the visibility of and strengthening connections with the existing waterways while improving recreational opportunities along them.

Back Central also has a thriving community of "green thumbed" residents, whose efforts have helped foster a neighborhood identity associated with garden plots, grape arbors, and inviting pocket parks. Back Central contains a fair number of small parks, although certain sites seem



Figure 4.1. Along the Concord River
(Source: Sarah Snider)

underused and exposed to road noise and traffic. In 2002, the city inventoried just under 30 acres of parkland for the Back Central neighborhood, which is slightly below what the National Recreation Parks Association stipulate for an equivalent population. In line with the Lowell 2003 Master Plan, the city and other partners have pursued opportunities to create or expand parks in underserved neighborhoods, including Back Central, and several improvements have been made since 2002 such as Jollene Dubner Park. Another option for future park expansion is to reinvigorate of South Common, as discussed in a previous section of this report.



Figure 4.2. Walter Lemieux Pocket Park
(Source: Jenny Edwards)



Figure 4.3. A private Grape Arbor in Back Central
(Source: Sarah Neilson)

Attention to hydrology will be critical for the environmental health of the Back Central neighborhood. Lowell, like many of New England's old industrial cities, thrived because it made use of its water resources for power and transport. But the legacy of these engineering triumphs is the existing network of constrained and taxed waterways, which includes both the River Meadow Brook and the Concord River. In addition, stormwater runoff has become a crucial issue for urban regions in Massachusetts. This is due to the expansion of contiguous paved surfaces in urban areas, which prevent water from being reabsorbed by the soil underneath. In Back Central, the majority of this runoff finds its way to River Meadow Brook and the Concord River. This runoff carries pollutants from automobiles, road salt during winter, fertilizers and pesticides from gardening and lawns, debris from construction sites, and pollutants from other regular urban activity.

Major Recommendations

This chapter recommends green space interventions at three different scales that could enhance quality of life in Back Central. Regional improvements include connections to the regional trails, wildlife corridors, and stormwater management. Neighborhood scale improvements enhance underutilized land parcels for local recreation, gathering space, urban nature, and education. Small scale broadly applied efforts contribute to neighborhood beautification and character while connecting public and private space through a network of small individual improvements.

- At the regional scale we recommend using the River Meadow Brook as a connection to the Concord River Greenway and the Bruce Freeman Bike Trail
- At the neighborhood scale we recommend enhancing underutilized parks like Olivera Park, and adding new parks at Lawrence and Mill and Gorman and Pine Hill.
- We recommend a small scale network of street trees, pervious pavement, and other streetscape and individual improvements.

Park and natural area action step items from the 2003 Lowell Master Plan:

“Promote the expansion of available park land and open space through the dedication of surplus public property to not-for-profit land trusts.”

Chapter 3: Neighborhood
Quality of Life

“Enhance the visibility of waterways from neighboring public streets and squares, strengthening their connection to existing neighborhoods and improving the real and perceived safety of waterfront areas.”

Chapter 5: Unique Waterfront Environments

“Identify opportunities to expand existing recreational areas and create new parks along waterways.”

Chapter 5: Unique Waterfront Environments

“Incorporate xeriscaping principles (water conserving landscape design) into all municipal green spaces.”

Chapter 11: Sustainability

Regional Scale Projects

Site: River Meadow Brook

Environmental context

The River Meadow Brook is a 6-mile tributary of the Concord River. It originates in a wetland area between the towns of Carlsile and Chelmsford, and enters Lowell from the south, forming the backbone of the light industrial corridor along Back Central's south edge, and feeding the Concord River just south of the Rogers Street Bridge and north of Centennial Island. Many of the river's bucolic upstream locations are protected natural lands, such as the Chelmsford Cranberry Bog Reservation and the Great Brook Farm State Park. These areas have retained their capacity to support many types of wildlife. However, as the River Meadow Brook enters the urban landscape, many of its natural attributes become neglected, and its environmental services become impaired. The river has been built over and around, obstructing its potential as a wildlife corridor and reducing the natural buffer area for stormwater runoff. The River Meadow Brook is listed by the Environmental Protection Agency as an impaired waterway from Russell Mill Pond in Chelmsford to its confluence with the Concord River in Back Central. See Photos at right.



Figure 4.4. Carlsile Cranberry Bog
(Source: RMB Association)



Figure 4.5. Upstream River Meadow Brook Habitat (Source: RMB Association)



Figure 4.6. River Meadow Brook in Back Central (Source: Jenny Edwards)

Regional Scale Projects

Figure 4.7. Example of a bikepath along a waterway in Massachusetts
(Source: Torrey Wolff)



Regional Trail Connections

Our proposal reintroduces the River Meadow Brook as a central natural attribute of Back Central by creating a green corridor through the neighborhood. This corridor would extend the regional Bruce Freeman Trail, which will end at the Lowell/Chelmsford Line, and connect it to the Concord River Greenway, which is currently under construction. The Lowell Conservation Trust has proposed that the connection between the Bruce Freeman Trail and the Concord River Greenway, the Concord River Greenway Connector Trail, be made south of both the brook and Back Central. These options are indicated by the yellow lines in Figure 4.8. However, based on our assessment of the projects, we believe that the community and city should consider restoring the River

Meadow Brook within Back Central, which will link the regional trails. The red lines in Figure 4.5 indicate Connector Trail options that would run along the brook in Back Central.

Concord River Greenway plans call for use of an easement on Centennial Island for a portion of the Greenway. We recommend connecting a future Meadow Brook path to the Concord River Greenway at this point. The unbuilt land along the currently dry southern fork of the brook aligns with the northern portion of Centennial Island. Taking caution to not to disturb the functions of the working hydro-electric facility, the Connector Trail could cross over a small pedestrian/bike bridge at this point. The connection would allow Back Central residents to easily access both the Greenway and the underutilized natural assets of Centennial Island.

If, after further investigation, the previously proposed Connector Trails turn out to be more feasible or appealing, we think it is still important to solidify the connection between the River Meadow Brook and the greater bike path system. The purple line in Figure 4.8 suggests how the Oliveria Park portion of the River Meadow Brook could maintain a connection to the Connector Trail in that instance. However, if the Connector Trail were to run along the River Meadow Brook, state and federal funding for the Bruce Freeman Trail could begin to support related improvements to the green space along the brook.

Regional Scale Projects

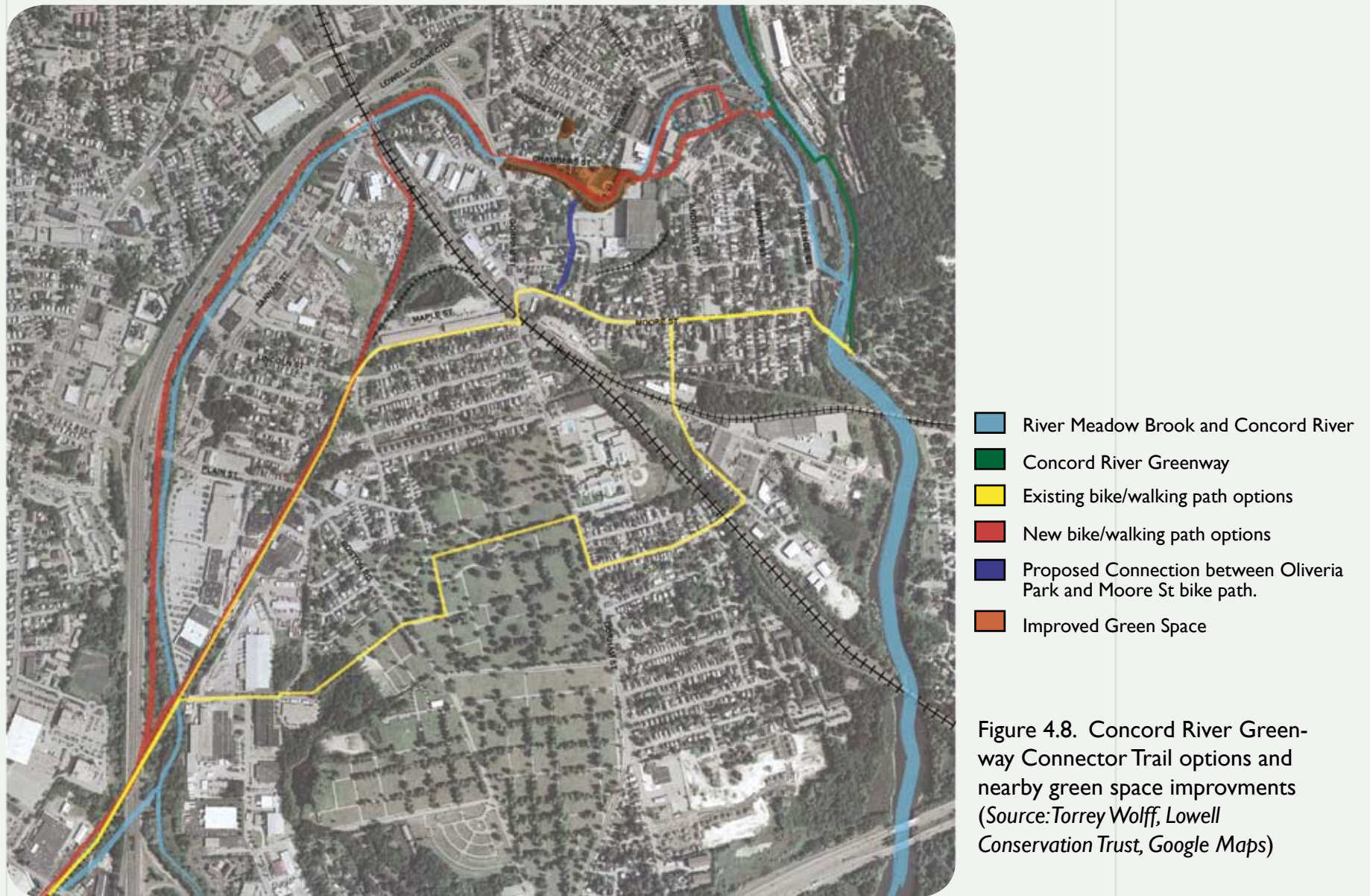


Figure 4.8. Concord River Greenway Connector Trail options and nearby green space improvements (Source: Torrey Wolff, Lowell Conservation Trust, Google Maps)

Regional Scale Projects

Site Improvements along the Brook: Oliveria Park

Today, much of the River Meadow Brook that runs through Back Central suffers from dumping and neglect. Fencing separates the brook from its surroundings, which deters all activity—both positive and negative. Neighbors who might enjoy this stretch of urban nature are cut off from the Brook. The disconnect is particularly apparent where the fenced-in brook runs directly along Oliveria Park. The overgrown brush and chain link fencing could give way to a much more inviting and celebratory edge to the neighborhood green space. Appropriate lighting and neighborhood supervision could offer a measure of security, and a better-used active area will deter unwanted activity.

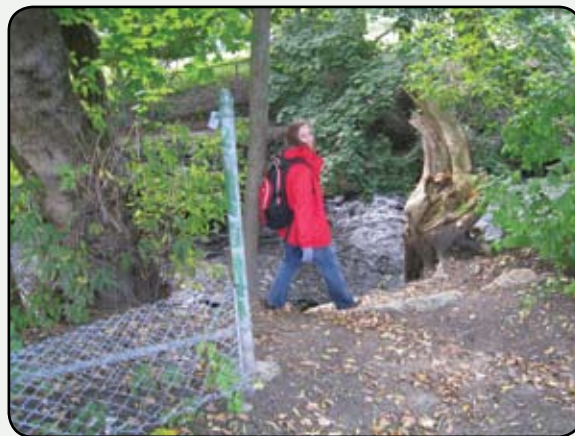


Figure 4.9. An example of a more inviting connection to a brook.
(Source: Torrey Wolff)



Figure 4.10. An example of a more inviting connection to a brook (Source: City-data.com)

Oliveria Park currently provides the neighborhood with a softball field, a basketball court, and a walking track. The park is adjacent to underutilized land, some of which should not be built upon, because of flooding. Thus, there is potential to expand the park, connecting the park and the brook, and include a bike and pedestrian path. Figure 4.11 illustrates how Oliveria park and surrounding lands could be further developed to offer more opportunities for outdoor recreation and appreciation for all age groups. Other improvements could include grape arbors to form a covered seating area facing the restored brook and new bike path. A playground would include seating for parents and picnic tables for small neighborhood gatherings. An improved, scenic bridge could connect Oliveria Park along the trail to a new, greener redevelopment of the Prince site.

Regional Scale Projects

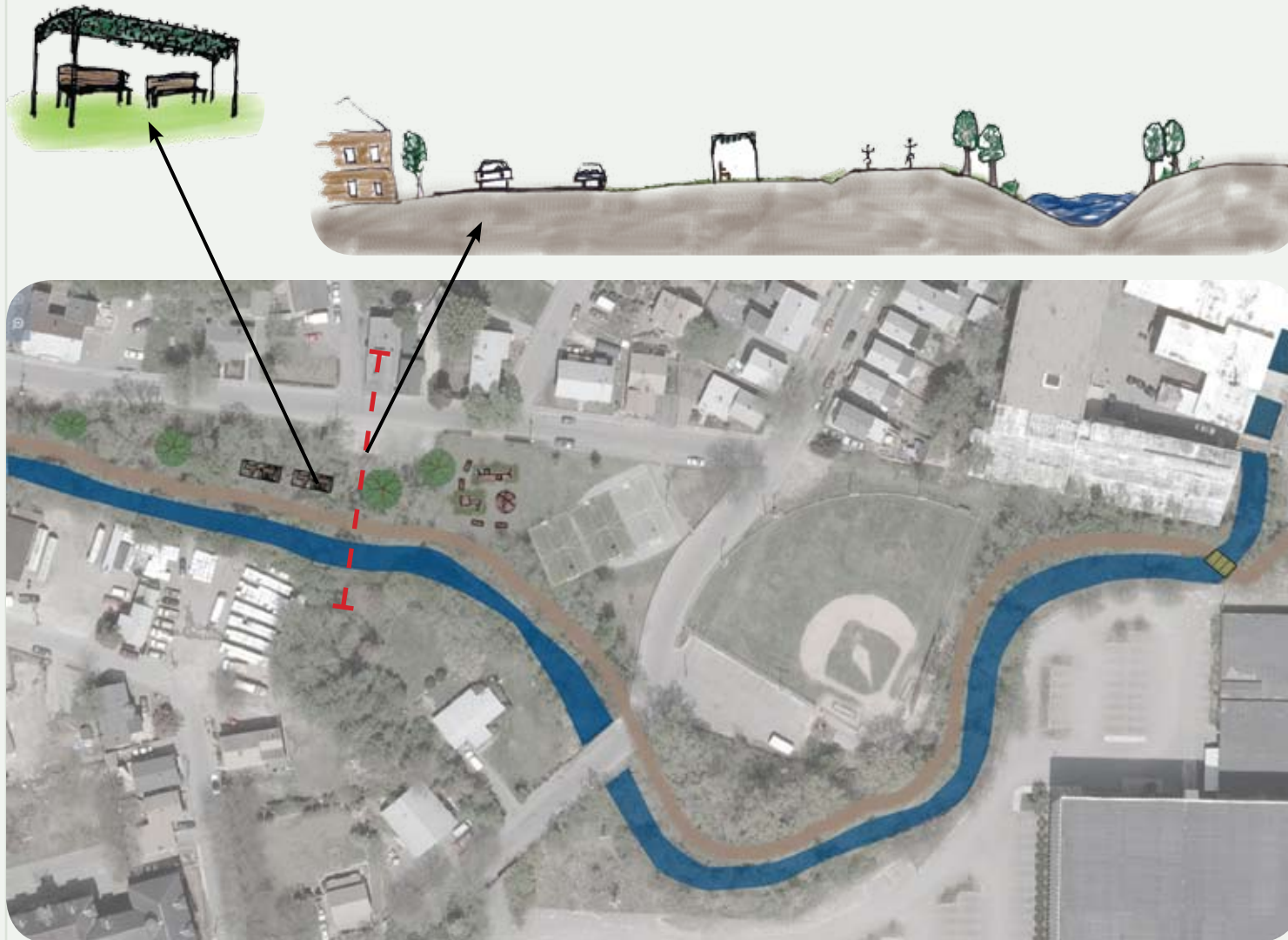


Figure 4.11. Plan and section of Oliveria Park improvements with a detail of seating under a grape orchard (Source: Torrey Wolff, Google Maps)

Neighborhood Scale Projects

Site: Prospect & Pine Hill Terrace

The City of Lowell owns this site, located between Pine Hill Street and Gorman Street (See page 13 for neighborhood context.) Although small in size, the site encompasses a large topographic change in a small distance, creating a steep slope that is unsuitable for most types of housing. Currently, the site is underutilized and covered with weeds and shrubs. Two unofficial off-street parking spaces exist at the top of the site off of Pine Hill Street, and one unofficial parking space and a small personal garden exist off of Gorman Street at the bottom of the hill.

We propose a terraced community garden on this site. This is an appropriate use, considering Back Central's strong culture of gardening, shortage of abundant open space and high density. The garden would work its way down the hill, in stepped terraces to prevent erosion and provide a safe and more gradual pedestrian pathway between the two disconnected streets. A community garden would provide space for those living in apartments or areas with inadequate gardening space a place to grow flowers and vegetables, or even grapes! Our proposed design includes up to twenty terraced gardens while preserving two to three parking spaces on the site.



Figure 4.12. Section of the terrace garden proposal for Prospect & Pine Hill (Source: Sarah Snider)

Neighborhood Scale Projects



Figure 4.13. Plan of the terrace garden proposal for Prospect & Pine Hill (Source: Sarah Snider)

Neighborhood Scale Projects

Site: Lawrence & Mill

Parcel #270, located on Lawrence Street at the end of Mill Street, has been in the process of development review for a number of years. This site has the potential to provide a river view, and possibly connect across a bridge to the Concord River Greenway, which is currently under construction. The parcel's proximity to Hosford Square makes it part of a larger central corridor, which begins at the Gallagher Train Station, crosses South Common and Hosford Square, and leads across the Concord River.

Hosford Square is notable for the recent enhancements to its streetscape and landscaping, and for its role as a primary node of commercial activity within the Back Central neighborhood. Hosford Square was named after Hocum Hosford, the two-time 1880s mayor who built Lowell's Masonic Temple. The Hosford Building on Middle Street still stands (look for the letter "H"). Back Central could strengthen Hosford Square's role as a center of neighborhood commercial activity by marketing existing and future restaurants and business to attract patrons from outside the neighborhood. The square's role can increase with more festivals and civic functions taking place there.

We propose to extend the reach of Hosford Square down Mill Street to its termination at Lawrence Street. On that site, we envision a set of mixed-use buildings with small ground-floor retail shops, or an eatery reflective of Back Central's cultural heritage. The site would include a small overlook park, and a bridge connecting to the Concord River Greenway on the opposite side of the river. This park would create a pleasant vista for pedestrians, looking down Mill Street from Hosford Square, and would reconnect this natural amenity to the neighborhood residents. Along with new construction, at this site, there is an opportunity to design for street trees, permeable paving, and other small measures that can serve as a model for future developments in Lowell.

Of course, Mill Street would be the vital connection between Hosford Square and Lawrence & Mill. While mostly residential in nature, Mill Street can be enhanced through pedestrian improvements and small zoning changes that allow for a greater mix of uses in existing buildings or lots. The resulting

Neighborhood Scale Projects

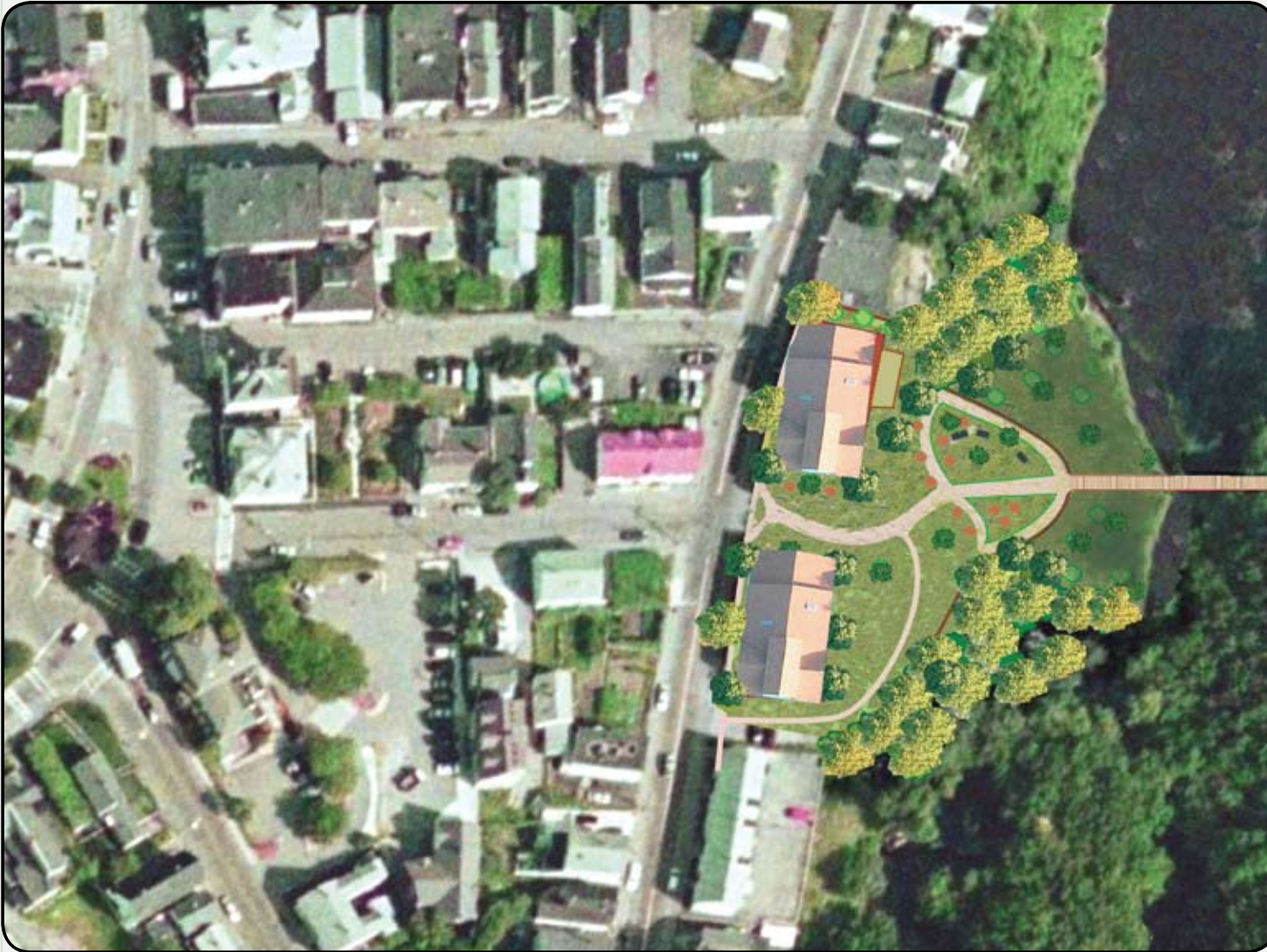


Figure 4.14. Plan for new development on Parcel #270 (Source: Catherine Duffy, Google Maps)

Neighborhood Scale Projects

neighborhood center would combine the commercial activity and character of Hosford Square with the natural amenities in the Back

Central neighborhood, creating a complete place that highlights the best of the neighborhood to people from around the city and region.



Figure 4.15. View towards parcel from Mill Street (Source: Catherine Duffy)

Neighborhood Scale Projects

Site: Back Central Community Orchard

Members of the Back Central have suggested the cultivation of public fruit trees as a way to beautify the neighborhood and provide a sweet benefit for the residents. We recommend planting a small orchard behind the Rogers Middle School. The orchard would be visible from the

proposed New Gallagher Street bisecting South Common, but buffered from streets or walkways where fallen fruit could be a maintenance or safety concern. Ecology and science classes from the Middle School can use the orchard as an education tool, and tree maintenance and fruit harvesting can be productive activities for the students. The fruit might also become a centerpiece of community sponsored events, such as school fruit festivals or markets.

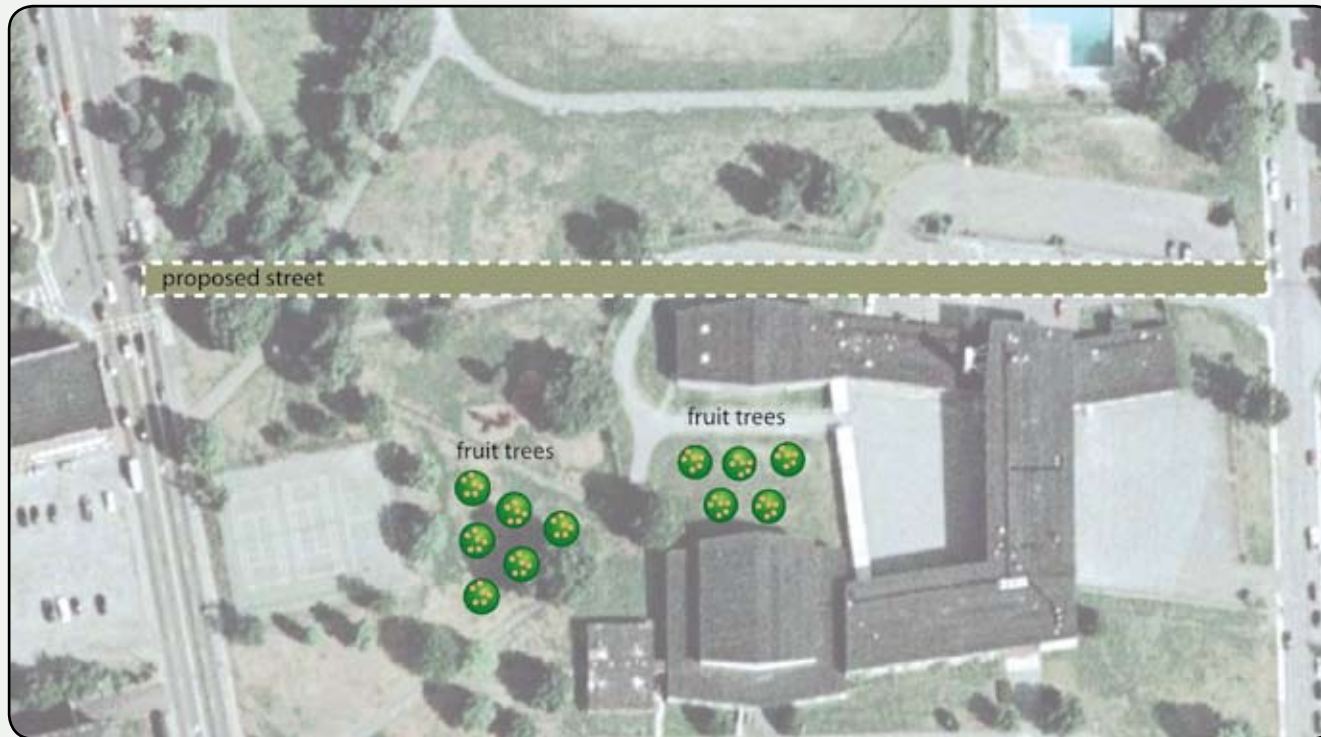


Figure 4.16. Proposed site for Back Central Community Orchard (Source: Catherine Duffy)

Small Scale Measures

At the neighborhood and household level, there are a number of simple, low-cost steps that can be taken to beautify the neighborhood, enhance natural systems, provide a cohesive neighborhood identity, and create a safer, more pedestrian-friendly environment. Small measures demonstrate a sense of community pride and create a welcoming neighborhood for new businesses and visitors.



Figure 4.17. Mature Street Trees in Back Central (Source: Sarah Neilson)

Trees

Trees provide countless benefits in an urban setting. A healthy canopy of trees can provide shade to cool the air, which can keep the neighborhood cooler in summer and saves the whole neighborhood on cooling costs. The same trees provide an atmosphere of calm and relaxation, while often boosting home values. They absorb rain water to prevent flooding and keep the neighborhood green and beautiful.

Trees can be planted on private property or on city sidewalks. Because of Back Central's narrow sidewalks, planting trees in front yards of homes and next to businesses might be the most feasible option. Several tree species that might be appropriate for Back Central's climate and density are the crepe myrtle, the trident maple and the purple ash. If budgets and capacity are a constraint, trees can always be planted one at a time. Planting a tree is a wonderful community experience, and requires a commitment to the tree for at least a few years to ensure its success.

Small Scale Measures

Green Thumb Society

Back Central neighbors can extend their “green-thumb” talents beyond the boundaries of their homes, and work together to make the public spaces as beautiful as their private gardens.

We recommend that Back Central neighbors establish a Green Thumb Society, to share gardening ideas and to support each other’s gardening endeavors. The Green Thumb Society could take the lead on developing the Terraced Community Garden we propose at Prospect Street and Pine Hill Terrace. The Society could also organize “The Gardens of Back Central” tours, which can build neighborhood spirit while sharing the gardens with others. Other suggestions for neighborhood events are grape festivals, local spring plant sales, or Arbor Day celebrations. Resident engagement with planning and appreciation for the natural assets of Back Central will ensure continued support for these efforts, and will encourage local residents to get the most out of future improvements. Back Central already has “home-grown” community groups to build on, such as Keep Lowell Beautiful, and there is a great channel to engage youth via the Green Team at the Rogers Middle School.



Figure 4.18. Neighborhood Gardeners at the Lowell Community Gardens Greenhouse
(Source: Keep Lowell Beautiful)



Figure 4.19. Private Garden in Back Central
(Source: Sarah Neilson)

Small Scale Measures

Garden Tours

Many communities organize walking tours of their gardens as a “destination” for neighbors and to attract visitors from other parts of their city and region.

Georgetown is a small community located near Seattle in Washington State. Modest houses and former industrial sites form the core of this middle class neighborhood. A few years ago, a group of neighbors realized that their gardens were a wonderful community asset. Organizing a garden tour provided a way for neighbors to get to know each other and a day to showcase Georgetown to visitors. Every summer, the community prints a neighborhood tour map and allow guests to visit their gardens for one weekend. Visitors stroll the neighborhood, visiting gardens, while local businesses set up small stands with beverages and snacks. The event builds community spirit among the residents of Georgetown and throughout the community area.

Permeable Surfaces

We recommend that businesses and Back Central homeowners transition to permeable surfaces that can absorb rain and restore groundwater reserves. These can come in the form of pavers that allow grass to grow through, (see picture, inset), or specially created pavement that allows water to filter through to the soil below. These changes are low-cost alternatives to standard paving that can happen incrementally as other repairs or building projects are carried out in Back Central.



Figure 4.20. Pervious Pavement (Source: Sarah Neilson)

Enhancement of the natural environment in Back Central will ideally combine efforts at all of the above scales. Regional planning for trails and environmental stewardship is as important as actions by individual residents on their private property, and these each require different strategies for implementation. Further discussion of implementation and financing strategies is included in Chapter 6 of this report.

In limited financial times, parks and environmental projects are often not the most urgent urban spending priorities. However, parks are often the most valuable amenity in a community, providing huge societal returns on the initial investment. Additionally, the cost of many greening efforts can be quite low, and numerous funding sources exist to support urban environmental improvement projects. Residents themselves can often bring about a tangible change in the near term.



Figure 4.21. Spring Plant Sale in Lowell (Source: Community Gardens Grenhouse/ Keep Lowell Beautiful)

Neighborhood Events and Stewardship

Invigorating neighborhood events like grape festivals, garden tours, local spring plant sales, or Arbor Day celebrations are suggestions for building community around outdoor and environmental issues. Also important are stewardship projects like local cleanup efforts and beautification days.

Conclusion

Plan for Action

Lowell benefits from several local non-profits and community groups that are active in the environmental arena.

- The Lowell Parks and Conservation Trust is a champion in this area, and has worked to create local parks, advocate for urban forestry and land stewardship, and has organized community greening and beautification events. The group is heading the Concord River Greenway Project, and established Jollene Dubner Park in Back Central.
- The River Meadow Brook has its own association of residents who have organized tours and recorded wildlife activity in the past.
- The Merrimack River Watershed Council advocates and organizes around pollution issues in the Merrimack River, which would include cleanup and monitoring assistance for the source rivers in Back Central.

Several organizations with a state or regional scope that are potential partners for funding or other resources for local project implementation. Some groups that are active in park conservation and land stewardship include:

- Trust for Public Land (Parks for People program)
- Groundwork USA
- The Urban Ecology Institute
- The New England Grassroots Environment Fund provides small grants to communities for environmental projects

For tree planting information and funding:

- The Northeast Center for Urban and Community Forestry
- Massachusetts Department of Conservation and Recreation Urban Forestry Program

Also, Back Central's important connection to regional water resources also qualify local cleanup and restoration projects for state funding, such as:

- State of Massachusetts Nonpoint Source Grant Program and the Water Quality Management Planning Program
- Massachusetts Environmental Trust's grant program for water and ecosystem health.

Conclusion



Merrimac River Watershed Council



Figure 4.22. Potential partners for local and regional environmental improvements (Source: respective groups)

Within Lowell, the city can extend its beautification program. One option is to create a Façade Improvement Program for Back Central, similar to that in the JAM (Jackson/Appleton/Middlesex) area, which provides matching grants to local businesses to for improvements to their façade and adjacent lots. These grants can include funds for landscape architects to ensure the creation of quality green spaces.

The City of Lowell could also implement an Open Space Impact Fee that requires residential property developers to pay a small fee to the city. Fees can be spent on acquisition of development of neighborhood-oriented public open space within the same community area in which the development occurs, or to support regional facilities near the development. Other cities have found this to be an effective way to raise funds for open space.

Other City-organized matching grant or rebate programs could support the costs of low-cost capital improvements such as benches, planters, and garbage cans.

Among local businesses, a Back Central Business Association could work together to address issues as a community, and also generate and disperse a small annual budget for local improvements.



Land Use Planning & Economic Development

Back Central was one of the first middle class neighborhoods built in Lowell to house workers in the nearby mills that fueled the City's economy. Today, the neighborhood retains a tight mix of industry, businesses, and housing. A map of existing land use designations can be seen in Appendix 5.1. The goals of the economic development approach are to preserve the neighborhood's balance of land uses, capitalize on locational assets such as its immediate access to regional rail and highway transportation, enhance Back Central's intrinsic value and its ability to support business and industry.

This section includes major recommendations for the Back Central neighborhood to encourage economic development in the context of its unique land uses and economic assets. Many of these recommendations reinforce those made in the 2003 Lowell Master Plan. We also profile three recommended catalyst sites.

Business Snapshot

Back Central contains approximately 225 businesses, which constitutes roughly 12% of the total employers in Lowell (based on Department of Housing and Urban Development Empowerment Zone data and state wage data, which lists about 1,900 firms in 2007). These

businesses generate an annual sales volume of \$233 million a year, and employ about 1,500 people, with the majority of establishments employing 10 or fewer people. There were over 120 different categories of businesses in this inventory, many unique. Of these, the businesses that have clustered in the neighborhood are shown in Figure 5.1. These findings underscore the importance of smaller establishments in Back Central and Lowell's economy, and the clustering of neighborhood-serving retail, automotive services and construction trades. The City might dedicate resources to survey businesses to identify common needs and new opportunities for synergy.

Restaurants	13	Schools	3
Attorneys	9	Travel Agencies	3
Auto Body Repair & Painting	6	Churches	3
Beauty Salons	6	Bus Consulting	2
Locks & Locksmiths	6	Bus Lines	2
Non-classified Establishments	6	Insurance	2
Auto Repair Service	4	Language Schools	2
Bus Services	4	Liquors-Retail	2
Convenience Stores	4	Manicuring	2
Real Estate Agents/Managers	4	Pet Supplies Retail	2
Auto Dealers-Used Cars	3	Plastering/Drywall Install.	2
Machine Shops (Mfs.)	3	Etched Circuits (Mfs.)	2
Real Estate	3	Restaurant Equipment	2

Figure 5.1:
Business
Concentration
in Back Central

Major Recommendations

Focus on Smart Economic Development

Although this plan for Back Central proposes retail at several sites, we understand this intensity of development might not be feasible. We recommend that the City target the development of neighborhood retail where it gives the highest benefit for vibrant and walkable districts and targets regional retail uses along its main commercial corridors (Lowell Master Plan 9.1.5). We also encourage the City of Lowell to draw on state or workforce development grants to survey its existing businesses, especially its durable goods manufacturers and health care companies, to find out what they need to remain competitive.

Neighborhood Preservation

Identify Additional Funding for Acquisition of Properties

The City has recently applied for funding under the Massachusetts Neighborhood Stabilization to assist neighborhoods affected by foreclosure, including Back Central. These funds can also be used for the acquisition, rehabilitation, or demolition of foreclosed or abandoned properties. The city might also structure a revolving loan fund for the

acquisition of properties from a set-aside its Community Development Block Grant funding. The City has many successes to build upon in neighborhood preservation, including its traditional neighborhood infill guidelines and its assistance for neighborhood-friendly property redevelopment (such as Car Condos or adjacent yard space) through RFPs and its Yard Sale Program.



Figure 5.2 Back Central's unique and affordable housing stock is one of its greatest assets and should be preserved (Source: Molly Ekerdt)

Major Recommendations

Rental Inspection Program

Because Back Central is built out and the preservation of its stock of affordable housing is crucial for the City, we recommend that the Planning Department pilot a Rental Inspection Program in Back Central. 71% of the units in Back Center are renter-occupied. The City might hire an inspector, build a schedule of inspections and keep records and contact information to better communicate with landlords. The Lowell Health Department currently oversees housing inspections. We recommend consolidating this function into the Planning Department to ensure the quality of built environment, as well as the health and safety neighborhood's many renters. Small licensing fees could fund additional expenses, if needed.

Energy Efficiency

Residents in Back Central also face the challenges of rising home energy costs. Many cities have recently implemented financing programs to help building owners conserve energy and water: by installing new windows, HVAC, insulation, and plumbing systems. Launching such a program in Lowell would complement other incentives that the city offers to keep its housing stock competitive. Lower-cost heating bills also mean

more money in residents' pockets. Testing such an initiative in Back Central would be ideal, given its old housing stock and its density. A first step might be to publicize and implement MassSAVE's incentives and rebate options at the neighborhood scale.

Enhance vitality of neighborhood commercial areas

Business Association

Create a formal business association to help businesses share concerns, access resources, more effectively communicate with the City, and establish a strong commercial identity for the neighborhood. Businesses might start by organizing regular meetings with area police captains to address security concerns.

Façade Improvement

Back Central is home to many businesses that are "destinations," that people travel longer distances to patronize. Back Central can capitalize on and increase this traffic by increasing the vitality of its commercial corridors. Lowell knows how to incentivize attractive retail corridors, especially in its historic downtown. The City has recently

A Back Central resident remarked at a community meeting that Back Central has the kind of built environment - historic buildings, narrow streets, churches and shops - that could translate into economic value for the neighborhood, drawing visitors to patronize its businesses, not unlike Boston's North End.

Major Recommendations

implemented Façade Improvement Program in the Jackson/Appleton/Middlesex District that refunds up to half the costs of signage, façade and lot improvements and design assistance. A similar program could be implemented in Back Central. Façade improvement funding might also be used to implement recommendations of the Lowell Police Department that make business owners less vulnerable to theft, and make customers feel more welcome at the same time (such as clearing windows of posters or signage, and using alternatives to security bars).



Figure 5.3: Imagined Façade and Placemaking Improvements for Lawrence Street restaurants
(Source: Molly Ekerdt)

Placemaking Improvements

Beyond incentives for physical improvements to retail properties, the City can help increase the vitality of its neighborhood retail by adding enhancements to its streets, like “street furniture,” small details like benches, flower pots, decorative light poles, and trash and recycling receptacles. Lighting can make the neighborhood more safe, a priority for Back Central residents, especially youth. Light poles can also hold banners, hanging flower baskets or other creative features. Well-designed waste containers can provide an attractive feature to the neighborhood, and send a message that the community cares about the environment. Residents have suggested that the City look to improvements made to Columbia Street in Fall River, MA as a good example of streetscape improvements. An local example of the impact of these improvement can be seen in Hosford Square where new landscaping, paving and signage help make this retail node more inviting. Such improvements need not be expensive. Back Central might experiment with something as simple as crosswalks with artistic patterns. The neighborhood might explore a partnership with design programs at local universities.

Catalyst Sites: Prince

Background

The former home of the Prince Spaghetti Company occupies 14.4 acres at the southern end of Back Central. This site has been home to industrial activity for at least the last hundred years. Figure 5.5 is an 1892 Sanborn Fire Insurance map of the area, which shows

the location of the Lowell Bleachery and Dye Works on the site. The site is best known as a manufacturing plant for the Prince Company, which maintained a popular restaurant, “The Grotto,” on the site for many years. Its most recent use was as a manufacturing facility for the Dutton Yarn Company. As of December 2008, the site has been unoccupied for over a year.



Figure 5.4: Aerial photo of former Prince factory (Source: CBRE)

Catalyst Sites: Prince

The site is currently improved by a 352,914 square foot, 3-story, industrial building constructed in 1979 and renovated in the late 1990s. The main portion of the building contains three stories, and clear ceiling heights of each story are a minimum of 18 feet. The current structure has a high floor load capacity suitable for heavy equipment, although the 18-foot ceiling clearances are somewhat below contemporary industrial standards. The site also has parking for roughly 300 vehicles, while the existing building features 7 loading docks. The current asking rent is \$3.50 per square foot, triple net, which is below prevailing industrial rents in the Lowell region.

The Prince Site has good access to the Lowell Connector, which connects to Routes 3, 495 and 93. Proximity to these major regional arteries makes the Prince Site attractive for warehousing and distribution uses, and also makes it a convenient location for workers throughout the region. Additionally, as opposed to an undeveloped site outside the urban context, the Prince Site is well-served by existing infrastructure including roads and utility connections. Representatives of the property's current owner claim that the property is free of environmental contamination, but by virtue of its urban location and history of industrial use, the Prince property can rightfully be termed a brownfield site.

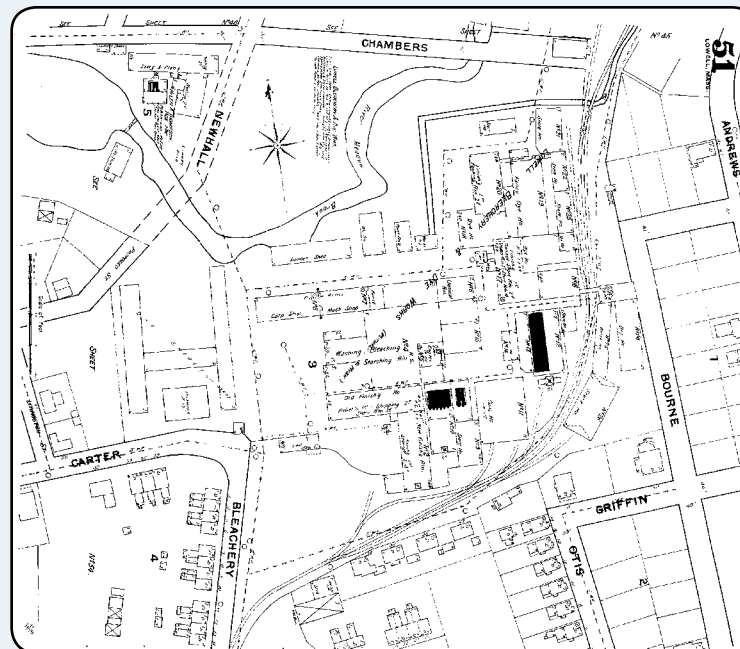


Figure 5.5. 1892 map showing Prince Spaghetti site as home of Lowell Bleachery and Dye Works (Source: Sanborn Maps)

Redevelopment Strategies and Tools

Several local leaders from both the public sector and the business community identified this site as one of the largest and most significant development sites in central Lowell. Although re-leasing the existing building is certainly a viable future for the site, it falls below current industrial standards for floor-to-ceiling height and daylighting.

Catalyst Sites: Prince

Given the site's size, underutilization and proximity to both the Lowell Connector and Downtown, the City should support the redevelopment of the site, although market conditions make redevelopment of any kind in the immediate future unlikely. Additionally, the Prince site is located in close proximity to the City-owned former Butler School property. Both of these properties, as well as several other parcels currently occupied by homes, could conceivably be assembled to create a larger redevelopment opportunity that would gain the advantage of Gorham Street frontage and even easier access to the Lowell Connector.

We identified three strategies for redeveloping this site:

1. Private redevelopment would require no extraordinary effort on the part of City leadership or agencies, but would also provide the most limited degree of public control over the site's future.
2. City assisted redevelopment could entail a role for public authorities in providing coordination, technical assistance, and possibly financial support for redevelopment to a preferred use.

3. City acquisition of the site would allow for the greatest degree of public control and would best facilitate combining the Butler School property with the Prince site. The City could land bank the site until redevelopment becomes feasible, and then issue a Request for Proposals to develop the site under land disposition agreements that would bind would-be developers to the City's desired planning outcomes.

Redevelopment Options

The Prince Spaghetti site presents a number of redevelopment options, even under its current light industrial (LI) zoning designation. This designation is permissive of a wide range of uses, especially under special permit (see Zoning Code Art. XII). Additionally, Lowell's industrial zoning designations have almost no dimensional restrictions aside from an floor area ratio (FAR) of 2.0 (See Zoning Code Sec.V.I).

Given the existing balance of residential and commercial uses in Back Central, an industrial redevelopment of the Prince site is preferred. Residential development is not preferred due to the already high residential density of Back Central and the neighboring Sacred Heart neighborhood. Not only would restoring the site

Catalyst Sites: Prince

to active industrial use create new jobs within the City, but it would continue Lowell's industrial heritage. The following list presents preferred redevelopment options identified in order of desirability, and compatibility with existing zoning. Sample site plans, some of which incorporate the Butler School site to gain frontage on Gorham Street, are included in Appendix 5.3.

I. Eco-Industrial Park

Eco-industrial developments focus both on the sustainability of individual firms and on synergies among different industrial users. Creating new, forward-looking industrial uses at the Prince Site could help put Lowell at the cutting-edge of industry once again. However, this type of development is not yet widely pursued by the private sector and demands a high level of coordination among potential users. For these reasons, eco-industrial development of the Prince Site is likely to require considerable engagement by the City or other public actors. An outline of critical path steps toward eco-industrial development are presented in the box to the right. For more information on eco-industrial development, see Appendix 5.2. An eco-industrial park would be an as-of-right use under the current zoning.



Figure 5.6. Green building at a Chicago-area eco-industrial park. (Source: Christy Webber Landscapes)

Critical Path Steps to Eco-industrial Development at the Prince Site

1. Identify current and potential industrial synergies and recruit firms (e.g. UMass Lowell Plastics Lab, City of Lowell Recycling, Building Materials Companies).
2. Assess user space and site needs. Is existing site sufficient or is land assembly required?
3. Identify possible subsidies and funding programs (e.g., MassDevelopment, EPA, etc.).
4. Create mechanism for development and operation (e.g., development authority, public-private partnership, publicly selected developer, etc.).
5. Secure subsidies and funding; create design guidelines to protect the neighborhood.

2. Other Industrial Development

If eco-industrial development proves too complicated to realize, redevelopment should focus on industry and job creation. Redevelopment proponents, whether public or private, should be creative in recruiting potential industrial users. Film production and other creative industries could be exciting and economically productive users of the Prince Site. Plymouth, Massachusetts is about to become a new center for film centered around the 450-acre Plymouth Rock Studios. While such a facility is far too large for this site, it is an example of creative economic development. Most industrial uses are accepted under existing zoning.

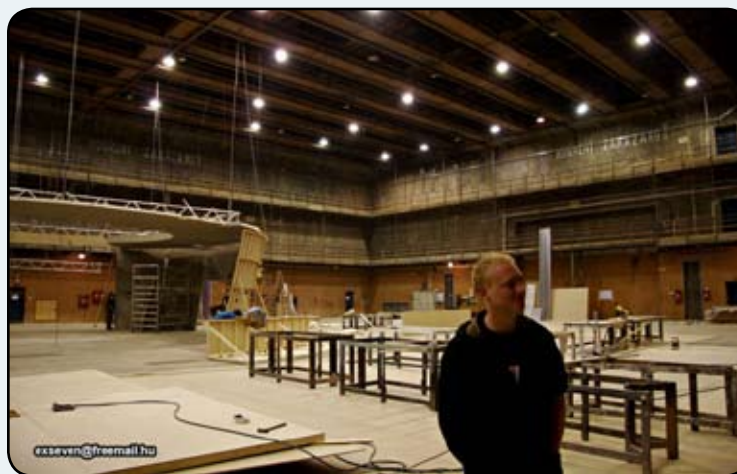


Figure 5.7. Film and other creative industries are alternative users for large, industrial building types.

Catalyst Sites: Prince

3. Mixed-Use Town Center Development

Town center developments mix ground floor commercial and retail uses with office or residential uses on upper floors. The incorporation of the Butler School's Gorham Street frontage would enhance the viability of retail on the Prince site. Residential use could be an important component of bringing new vitality to this part of the neighborhood. Although residential use is not allowed under industrial zoning, dwelling units above an accepted ground-floor use are allowed by special permit. However, a Planned Unit Development (PUD) or rezoning of the site might be a better approach.



Figure 5.8. A mixed-use Town Center might include businesses on the ground floor with housing or offices above (Source: Josh Zade)

4. Retail Center with Housing

Another option for the site would be the to build a retail complex of the “neighborhood center” type. A supermarket or other large store typically anchors this type of shopping center, complemented by an assortment of smaller “inline” stores. The site is likely too large to be devoted entirely to retail given the nearby population and the presence of other retailers. Therefore, residential use on the area of the site farthest from Gorham Street makes sense. The visibility of the Gorham frontage is crucial to the success of retail development, and heavy traffic volumes may make this portion less attractive for housing.



Figure 5.9. A neighborhood shopping center could be a part of reusing the Prince Site (Source: Josh Zade)

Catalyst Sites: Gorham Street Corridor

As the terminal point on the Lowell Connector, Gorham Street, along with Back Central, is the welcoming point for those traveling by car to Lowell. We envision the Gorham Street as a visibly inviting corridor where visitors know that they have arrived in someplace special. Approximately 18,000 cars travel along Gorham Street every day, giving it the potential to emerge as Back Central's "Main Street."

Existing Conditions

Missing Teeth – The corridor has some key sites that when developed could transform the corridor from one with "missing teeth" to a vibrant street. This includes the site of the former St. Peter's Church, which though well-maintained, is a key development site. Farther south, the Butler School sits vacant and its grounds neglected, representing an eyesore on this key stretch of Gorham. We recommend that the city package this parcel with any proposed mixed-use redevelopment of the Prince site (see above) or put out a Request for Proposals to develop the site independently. In the interim, the city should commit resources to improve the site.

Underutilized Street Frontage– Gorham has its share of car services, dealerships, parking and gas stations that break up the continuity of the street. The City might do more to increase the attractiveness of these businesses in the short term and zone for more active uses in the future.



Figure 5.10. Existing Conditions at Gorham and Central Streets (Source: Trinity Simons)



Figure 5.11. Signage and planting make this gateway to the neighborhood more welcoming (Source: Trinity Simons)

Catalyst Sites: Gorham Street Corridor



Figure 5.12. Vacant parcels along Gorham Street near the former Butler School (Source: Microsoft Live Maps)



Figure 5.13. Existing Conditions at Gorham and Central Streets (Source: Jesse Kanson-Benanav)



Figure 5.14. Existing Conditions along Gorham Street (Source: Jesse Kanson-Benanav)

Catalyst Sites: Gorham Street Corridor

Recommended Improvements

The overarching goal is to strengthen the visual continuity of the streetscape through appropriate site planning, land use designations and development incentives.

Zoning

Most of the current zoning (Traditional Mixed Use – TMU) along Gorham Street between Central and Moore is consistent with the goal of creating a pedestrian-friendly mixed-use corridor. The only exception is the lot at southwest corner of Gorham and Congress St that is currently being used as a gas station. We recommend rezoning this parcel from Light Industrial (LI) to TMU to insure that future uses will also be consistent with the stated goal.



Figure 5.15 (above). River Meadow Brook rapids at Gorham and Congress Street is a beautiful vista and could be capitalized upon (Source: Microsoft Live Maps)



Figure 5.16. Mixed-Use hub at Central and Gorham Street is representative of the strong neighborhood fabric on the street (Source: Trinity Simons)

Catalyst Sites: Gorham Street Corridor

The City might also provide matching grants for existing gas stations to install landscaping strips. This is consistent with Lowell Master Plan Recommendation. 9.1.4.

Form-based Code and Design Review

To ensure that any new development is visually and physically in line with the desires of the community, the City should develop a form-based code for all future new and rehab developments along the Gorham Street corridor with the following intended goals:

- Buildings oriented toward the streets with entrances close to the sidewalks
- Subordinated Parking – off-street parking should be located to the side or behind buildings
- Design and material requirements consistent with the current fabric of the street and maintains the character of the community
- Consistent building heights, massing and fenestration

Other Public Incentives

Infrastructure Improvements – As consistent with “Placemaking” recommendations above, the City should provide funding and resources for improvements that enhance the pedestrian experience (e.g. street lighting, street trees and improved sidewalks). Additionally, the city should require any new development along the corridor to contribute impact fees that will be used to preserve and enhance the Corridor.

Development Incentives – The City might offer density bonuses, expedited permitting or other subsidies to encourage development on Gorham Street. For example, the City can grant a one-story height limit increase for any mixed-use development that proposes ground floor retail.

Catalyst Sites: Middlesex County Courthouse

Middlesex County Courthouse is a key site in the redevelopment of Gorham Street, as it is located across the street from the old St. Peters Church site, and possibly at the terminus of a new street through South Common, and along the corridor leading into downtown. The Courthouse has a storied history, early leaders moved the original building back on the site to make room for expansion. Lowell Superior Court's impending move to a new building in the Hamilton Canal district presents Lowell with the opportunity to act with no less strength and determination to preserve the building again.



Figure 5.17. Historic footprints of courthouse building (Source: Sanborn Maps)



Figure 5.18. Middlesex County Courthouse (Source: Bill McGarry)

The State should transfer ownership to a local stakeholder, perhaps the City or a civically minded private owner. A new mixed-use building could house a business incubator for recent college graduates combined with a Workforce Training Center, (Recommendation 8.1.3 in the Lowell Master Plan). The Courthouse, a Lowell icon, may also prove to be competitive regional office space, whose rents could support the operation of other civic uses in the building. The Registry of Deeds will not co-locate with the new Courthouse, and may be interested in staying as

Catalyst Sites: Middlesex County Courthouse

a tenant. Adaptive reuse for housing has proved successful nearby, including the St. Peters School and Keith Academy Condos, and this may be a second option for a mixed use building.

In addition, we recommend that the building fill some type of cultural and civic function that opens it to the neighborhood. The Courthouse is a rare piece of Lowell's civic infrastructure that isn't positioned downtown. The building's floor plan is a combination of small offices, libraries, courtrooms, auditoriums and atriums may lend itself for practice rooms and performance space for something like a Youth Arts Academy. Certainly there are other locations for arts functions in Lowell, but this building would afford a grand home with space for many different arts uses that is especially accessible to its neighborhoods. The building might also provide low-cost office space to Lowell's many cultural organizations. The building's current zoning as Urban Mixed Use, facilitates reuse along any of these lines.

The Courthouse's large landscaped site may also be an asset to the neighborhood, whether its lot provides overflow parking, doubles as a basketball court or location for farmers markets or neighborhood garage sales or community festivals. Youth a Rogers Middle School suggested that the neighborhood could use a greenhouse, and the



Figure 5.19. With the Court moving downtown, the old structure could become a cultural center for the neighborhood and the whole city (Source: Molly Ekerdt)

Catalyst Sites: Middlesex County Courthouse

north lawn of the Courthouse could be a good site for this use.

Critical next steps may include assembling a task force to recommend a plan for the future of the building, and may include representatives from the City, County and State, the Registry of Deeds, as well as key cultural institutions in Lowell, and commercial office brokers. Seed funding for cultural center might come from local foundations. Grants from the Massachusetts Cultural Facilities Fund might be able to leverage additional private dollars. The Fund provides technical assistance, rehabilitation and capital grants, to promote the acquisition, design, repair, rehabilitation, renovation, expansion, or construction of nonprofit cultural facilities in Massachusetts.



Figure 5.20. Aerial photo of former site of St. Peter's Church (Source: Microsoft Live Maps)



Figure 5.21. The Courthouse, imagined as a site for outdoor neighborhood Festivals or Markets (Source: Molly Ekerdt)



Implementation Strategies and Tasks

The Back Central Neighborhood Plan contains a variety of actions and programs that will require substantial funding and regulatory changes. Many projects call for improved infrastructure within the neighborhood and may be publicly funded. Some projects, such as improvements to private buildings and properties, must be funded by private capital, and other planned catalyst projects could be developed through public - private partnerships and incentives.

Ultimately, however, the most enduring impact comes from local action. Resident engagement with planning and appreciation for the natural and cultural assets of Back Central will ensure continued support for these efforts, and encourage local residents to get the most out of future improvements. Back Central already has "home-grown" community groups to build on, such as BCNA, Keep Lowell Beautiful, and it has a great channel to engage youth through the Green Team at Rogers Middle School.

This section outlines a neighborhood implementation strategy, as well as listing all of the recommendations of this plan by topic area, alongside potential financing opportunities, leaders, investment levels and scheduling recommendations for each.

The Fast Five

The following are five steps we believe that the City of Lowell and the neighborhood can take in the next two years that don't cost a lot, but will make noticeable improvements in Back Central and build momentum for further implementation of this plan.

1. Signal Improvements and Crosswalks at Lawrence and Rogers
2. Pilot Rental Inspection Program
3. Pilot Parking Permit Program in Back Central
4. Launch Youth Conservation Corps
5. Start Neighbor Circles and activate www.backcentral.org

Implementation Strategies and Tasks

Neighbor Circles & Network Organizing

Government and traditional neighborhood associations can't do it all. They are often focused on structure rather than relationships, and therefore tend to be reactive: building affordable housing in the face of a crisis or organizing against a budget cut. Engaging residents in improving their quality of life should be fun, welcoming, and meaningful. Applying the concept of network theory (a set of ideas that come from the technology and economics fields but that are proving useful for understanding and shaping our community environments) can overcome obstacles to resident engagement and create a strong demand environment for change.

One strategy for creating a demand environment is through "NeighborCircles," a program pioneered by Lawrence Community Works, a community-based organization in Lawrence, MA. Based on a hybrid of many of the established community organizing practices, LCW sponsors neighbor dinners, which provide an opportunity for small groups of people to come together, have a conversation about their neighborhood ideas or concerns, then potentially act on items that are important to them.

A demand environment is proactive: residents create the network of relationships that support productive deliberation, and practice this process at the institutional, neighborhood and city levels to shape the community (including the institutions) they want. In Back Central, existing organizations such as Coalition for a Better Acre, One Lowell, Mass Alliance for Portuguese Speakers, or Greater Lowell Community Foundation could act as potential sponsors or provide grants for a NeighborCircles approach.

(See Appendix 5.4: "Network Organizing" Approach)

Implementation Index and Schedule

No.	Planning Recommendation	Specific Actions (& Resources)	Leadership	Investment Level	Timeline (yrs)
<u>Gateways</u>					
1	Create signage that is consistent and brands Back Central as a unique neighborhood within Lowell.	Catalogue existing signage; engage community on identity formation; identify appropriate locations and funding sources for different signage types.	City of Lowell, Mass Highway	Moderate	3-5
2	Connect Gallagher Terminal to Back Central by creating a new street through South Common Park.	Study trolley routes and transportation options to connect Hamilton Canal and Back Central to existing trolley network.	City of Lowell, Lowell Public Schools, Lowell Historic Board, MBTA	High	3-5
		Engage community in design objectives for South Common to include historical legacy and removal of pool.	City of Lowell, Lowell Historic Board	Moderate	1-3
		Create long-term master plan for Furniture Outlet site and zoning incentive structure to encourage appropriate development.	City of Lowell, Lowell Historic Board	High	3-5
		Identify parking requirements and shared parking possibilities with Gallagher Terminal Lot.	City of Lowell, MBTA	Moderate	1-2

No.	Planning Recommendation	Specific Actions (& Resources)	Leadership	Investment Level	Timeline (yrs)
		Study expansion and rehab of west-facing façade of Rogers Middle School to create an additional entrance; Study parking requirements for west parking lot.	City of Lowell, Lowell Public Schools,	High	3-5
3	Improve Traffic Flow around Church Street Plaza.	Reopen Charles Street between Gorham and Central Streets.	City of Lowell, Streets Department	High	1-3
		Reduce speed limit on Veterans Way and commensurate enforcement.	City of Lowell, Streets Department	Low	1-2
		Reroute Veterans Way/Gorham traffic to Charles and Central Streets, with reduced speed limits; Reclaim Veterans Way as park/event space.	City of Lowell, Streets Department	High	1-2
4	Reposition and Improve Church Street Plaza.	Develop a long-term master plan for the Church Street Marketplace.	City of Lowell, Shopping Center Owners, Major Tenants	Moderate	1-2
		Infill development at Charles and Central Streets.	City of Lowell, Economic Development Department	High	5-10

No.	Planning Recommendation	Specific Actions (& Resources)	Leadership	Investment Level	Timeline (yrs)
		Designate parking access ways in the shopping center as full streets.	City of Lowell, Streets Department	High	1-2
		Reclaim Chapel Street Extension and parking area as pedestrian/Armenian Memorial space.	City of Lowell, Streets Department	High	5-10
		Infill mixed-use development at VNA site with shared structured parking.	City of Lowell, Economic Development Department	High	5-10
5	Simplify Lawrence & Rogers Intersection to a more typical four-way signal.	Give preferential treatment to the main traffic flow and adjust signal timing as needed to enable this, keeping in mind pedestrian flows as well.	City of Lowell, Streets Department	High	1-2
6	Make Lawrence & Rogers intersection inviting and accessible to pedestrian traffic.	Create direct pedestrian crossings that have clear sightlines to approaching cars in all four directions. Create marked and visible crosswalks for pedestrians.	City of Lowell, Streets Department	Moderate	1-2
7	Improve Lawrence and Rogers as a Gateway.	Amplify placement and content of directional and identity signage. Consider creative uses for current corner parking lot.	City of Lowell	Moderate	3-5

No.	Planning Recommendation	Specific Actions (& Resources)	Leadership	Investment Level	Timeline (yrs)
Street Design and Parking					
8	Street Re-design.	Study the feasibility of the three options for each of neighborhood's street types. Collector: basic, angled, leveled and for residential: two lane traffic calming, one lane, shared.	City of Lowell, Streets Department, Neighborhood and block groups	Moderate - High	1-2
		Develop an educational tool that allows residents to decide on improvements street by street, in anticipation of future projects.	City of Lowell, Planning and Streets Department, Neighborhood and block groups	Moderate - High	1-2
9	Parking Management Plan & additional development of official "Car Condos."	Pilot permit system for on-street parking, and assign spaces at "Car Condos" for those opting out of the permit system.	City of Lowell, Planning and Streets Department	Moderate	2-4

No.	Planning Recommendation	Specific Actions (& Resources)	Leadership	Investment Level	Timeline (yrs)
Open Space and Parks					
10	Connect to Regional Trails and Improve Wildlife Corridors.	Use the River Meadow Brook as a connection to the Concord River Greenway and the Bruce Freeman Bike Trail.	City of Lowell, Lowell Parks and Conservation Trust	High	3 to 5
11	Storm water management.	Develop standards and incentives for the use of pervious pavement in parking lots and private homes; create buffers around new development (Mass Nonpoint Source Grant Program and Water Quality Management Planning Program).	City of Lowell, State of Massachusetts, Regional environmental organizations, Merrimack River Watershed Association	Low-Moderate	2-5
12	Enhance underutilized parks such as Oliviera Park.	Improve lighting and maintenance; connect to regional trails (Open Space Impact Fee).	City of Lowell	Low	3 to 5
13	Create new terraced gardens park at Pine Hill and Gorman Street.	Assess soil quality and design constraints per city guidelines. (Open Space Impact Fee).	City of Lowell	Moderate - High	3 to 5

No.	Planning Recommendation	Specific Actions (& Resources)	Leadership	Investment Level	Timeline (yrs)
14	Create new public park at Lawrence and Mill Streets, overlooking the Concord River.	Connect Hosford Square and the Concord River with improvements along Mill Street. Work with developer to obtain an easement through the Lawrence street site, and consider construction of a pedestrian bridge across the Concord River (Open Space Impact Fee).	City of Lowell, Back Central Neighborhood Association	Moderate - High	2-3
15	Add street trees throughout the neighborhood.	Identify a set of street trees that would be compatible with Lowell's climate and budget, fundraise for the purchase of trees (The Northeast Center for Urban and Community Forestry, Mass Dept of Conservation and Recreation Urban Forestry).	City of Lowell, Keep Lowell Beautiful,	Low - Moderate	2-3
16	Develop a Lowell Community Orchard.	Identify parcel of suitable land, possibly available through City's Yard Sale program.	City of Lowell, Keep Lowell Beautiful, private foundations	Moderate	2-4

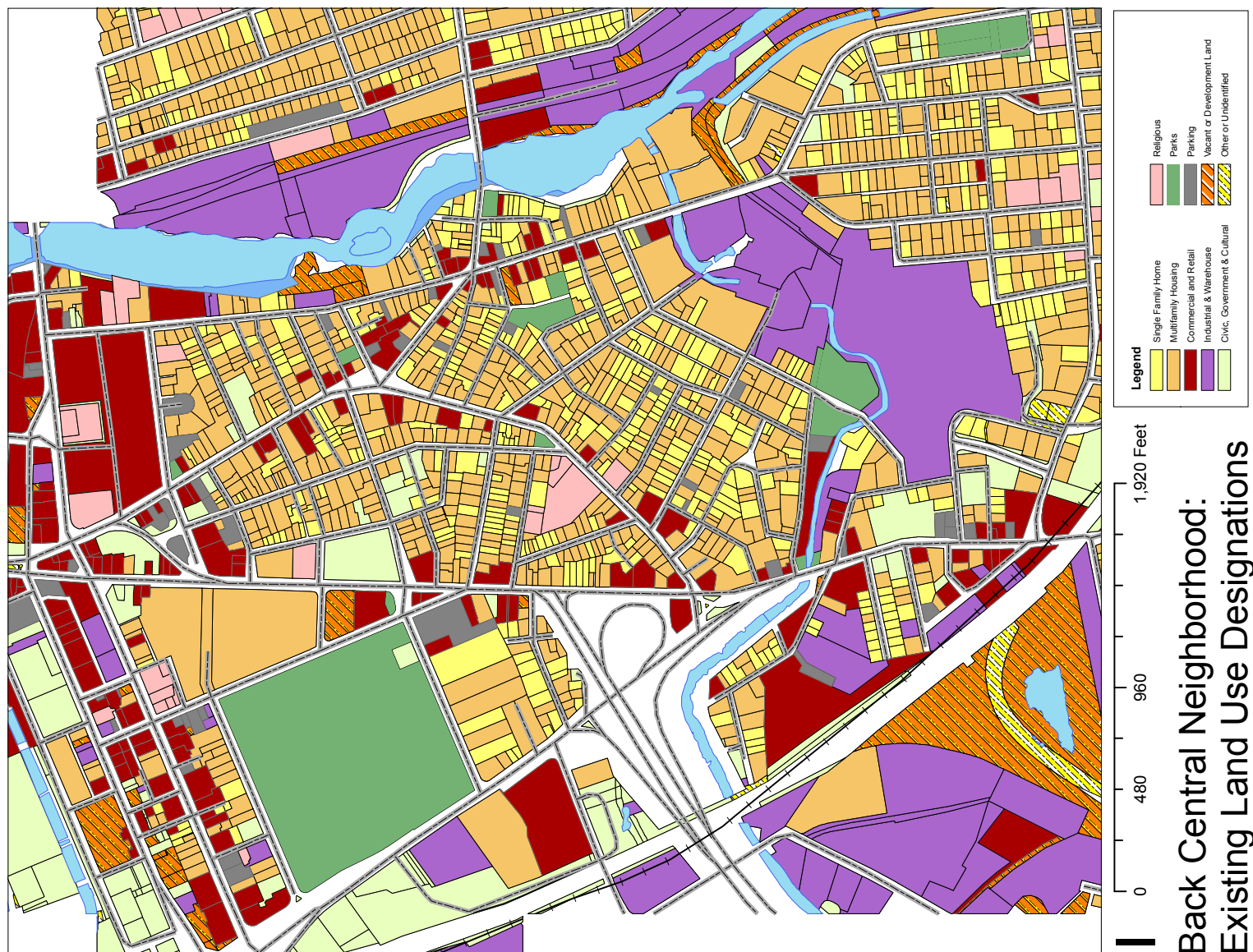
No.	Planning Recommendation	Specific Actions (& Resources)	Leadership	Investment Level	Timeline (yrs)
<u>Economic Development</u>					
17	Smart Economic Development.	Retail market study to inform development of additional retail at Church Street Marketplace, Thorndike and Gorham corridors, Prince Site.	City of Lowell, Department of Economic Development	Moderate	1 to 2
		Business survey, especially in key sectors such as durable goods manufacturing and health care (Mass Executive Office of Labor and Workforce Development).	City of Lowell Department of Economic Development	Moderate	1 to 2
18	Launch a program for Neighborhood Preservation.	Identify Additional Funding for acquisition of dangerous, abandoned or strategic properties (Community Development Block Grants, Community Preservation Act).	City of Lowell	Moderate	3-5
		Pilot Rental Inspection Program.	City of Lowell, Department of Planning	Moderate	1-2
19	Enhance vitality of neighborhood commercial areas.	Form a Back Central Business Association.	Lowell businesses, City of Lowell	Low	1-2

No.	Planning Recommendation	Specific Actions (& Resources)	Leadership	Investment Level	Timeline (yrs)
		Façade Improvement (Lowell Development and Financial Corporation).	City of Lowell, Lowell Businesses, Lowell Historic Board	Moderate	3-5
		Placemaking Improvements (Impact fees, Infrastructure appropriations).	City of Lowell	High	3-5
20	Catalyze the Redevelopment of the Prince Site.	City of Lowell determines its level of involvement: assistance or acquisition.	City of Lowell	Low	1-2
21	Pursue Eco-Industrial Development for the Prince Site.	Identify current and potential industrial synergies and recruit firms.	City of Lowell, Department of Economic Development	Moderate	3-5
		Assess user space and site needs, and create mechanism for development and operation. (MassDevelopment, EPA).	City of Lowell, Department of Economic Development	Moderate	3-5
		Create design guidelines to protect the neighborhood.	City of Lowell, Planning Department	Moderate	3-5

No.	Planning Recommendation	Specific Actions (& Resources)	Leadership	Investment Level	Timeline (yrs)
22	Gorham Corridor Development.	Craft development incentives (density bonuses, funding, expedited permitting) and form-based code for new development, Rezone Light Industrial to Urban Mixed Use.	City of Lowell, Planning Department	Moderate	3-5
		Streetscape, signage and lighting improvements.	City of Lowell, Planning Department	High	5-10
23	Redevelopment and Reuse of the Middlesex County Courthouse.	Assemble task force to study cultural uses in the building, and ownership (Massachusetts Cultural Facilities Fund, Foundations and Fundraising).	City, County and State, Registry of Deeds, key cultural institutions	Low	1-2
		Conduct formal market study to determine market for office or residential reuse of the building.	City of Lowell, Department of Economic Development	Moderate	1-2

No.	Planning Recommendation	Specific Actions (& Resources)	Leadership	Investment Level	Timeline (yrs)
<u>Community & Wealth Building</u>					
24	Program for Energy Retrofits of Housing Stock.	MassSAVES.	City of Lowell	Moderate	3 to 5
25	Launch a Youth Conservation Corps.	(Private foundations, Youth WIA).	City of Lowell, Youth Organizations, Back Central Neighborhood Association	Moderate	1 to 2
26	Neighbor Circles or Similar Neighborhood Network Building.	(Greater Lowell Community Foundation Capacity grants).	Coalition for a Better Acre (CBA), One Lowell, Mass Alliance of Portuguese Speakers, BCNA	Low	1 to 2
27	Re-activate Back Central domain: www.backcentral.org .	Build interactive website and listserve.		Low	1 to 2

Appendix 5.1 Land Use Map



Appendix 5.2 Eco-Industrial Development

Industrial Ecology

Eco-industrial development is a new philosophy of industrial development that is rooted in the emerging discipline of industrial ecology. Robert Frosch and Nicholas Gallopoulos coined the term “industrial ecology” in a 1989 article in *Scientific American*. Industrial ecology studies the ways in which resources and capital investments are used by human society, and attempts to conceive of systems of economic activity that mimic natural “closed-loop” systems. Industrial ecology looks to natural systems as examples of how to reduce resource depletion, waste production, and pollution. According to the International Society for Industrial Ecology, “Industrial ecology provides a powerful prism through which to examine the impact of industry and technology and associated changes in society and the economy on the biophysical environment.”

Basics of Eco-Industrial Development

Eco-industrial development is aimed at creating the physical realization of these new, more sustainable industrial processes. This form of development focuses on two principal ways of making industry more environmentally friendly. One focus is on making individual industrial facilities more environmentally friendly, by building

Eco-Industrial Development: Key Concepts

- Pollution prevention/Waste minimization
- Byproduct exchange
- Green design
- Life cycle analysis
- Technological innovation
- Optimizing resource use
- Fostering networks among businesses

Source: Deepak Bahl, National Center for Eco-industrial Development

more sustainable buildings, seeking efficiencies in industrial processes, and striving to minimize environmental impacts. The second focus is on identifying and cultivating synergies among different industries in order to minimize waste creation and resource consumption. Deepak Bahl of the National Center for Eco-Industrial Development, jointly sponsored by the University of Southern California and Cornell University, identifies a set of concepts and approaches as central to the idea of eco-industrial development.

One of the main strategies of eco-industrial development is to create cycles where one firm's waste becomes another firm's input. For example, clean warm water runoff from cooling a power plant may be used by neighboring plant nursery fish farm. Another example would be using wood scraps from a furniture plant to create particleboard. Identifying and coordinating these cross-firm synergies makes eco-industrial development more challenging than other kinds of industry, but also has the potential to revolutionize the way in which our economy consumes resources. In most cases, eco-industrial development is not profitable for private investors, but nonetheless, this new approach to industry aims to create less harmful impacts on host communities and create the sustainable economy of the future.



Stonyfield Londonderry Ecological Industrial Park, Londonderry, NH

Examples of Eco-Industrial Development

Just a few miles north of Lowell, Londonderry, NH is the home of an roughly 100 acre eco-industrial development that hopes to address the negative effects of rapid growth pressures on the Town of Londonderry. The Londonderry Ecological Industrial Park is the location of

a plastics recycling company that purchases waste plastic and makes use of greywater from Stonyfield Farms Yogurt, a firm located next to the Park. The Park has also attracted the construction of a 720 megawatt combined cycle natural gas power plant that purchases treated wastewater pumped from the City of Manchester's Waste Water Treatment Facility.

The Phillips neighborhood in South Minneapolis was once the targeted site for a large new garbage transfer facility. Members of the community organized to resist this initiative, and instead proposed the development of a new center for sustainable industries. Their efforts ultimately ended in the construction of the first "green" speculative office building in the U.S. Other efforts included the DeConstruction Services Program, which salvages building materials from sites around the area. These materials are then resold through the Green Institute's ReUse Center Stores. These businesses have created new jobs in the neighborhood. Also, as Teresa Vazquez of the National Center for Eco-Industrial Development notes, "By recovering the building materials from the immediate area, the program promotes local resource recovery." However, according to recent newspaper accounts, the Green Institute is facing financial difficulties, which points to the difficulties of development of this type.



Green Initiative/Phillips Eco-Enterprise Center, Minneapolis, MN

Conditions Favorable for Eco-industrial Development:

- Supply of by-products must meet demand (and vice versa)
- Form relationships based on connections or institutional framework to reduce transaction costs
- Proximity to compatible firms with stable supply and quality of byproducts
- Regulations that penalize waste and provide firms' incentives to seek symbiotic relationships with other firms

Source: Deepak Bahl, National Center for Eco-industrial Development

Sources:

International Society for Industrial Ecology:
<http://www.is4ie.org/>

National Center for Eco-industrial Development:
<http://www.usc.edu/schools/sppd/research/NCEID/>

Green Institute/Phillips Eco-enterprise Center:

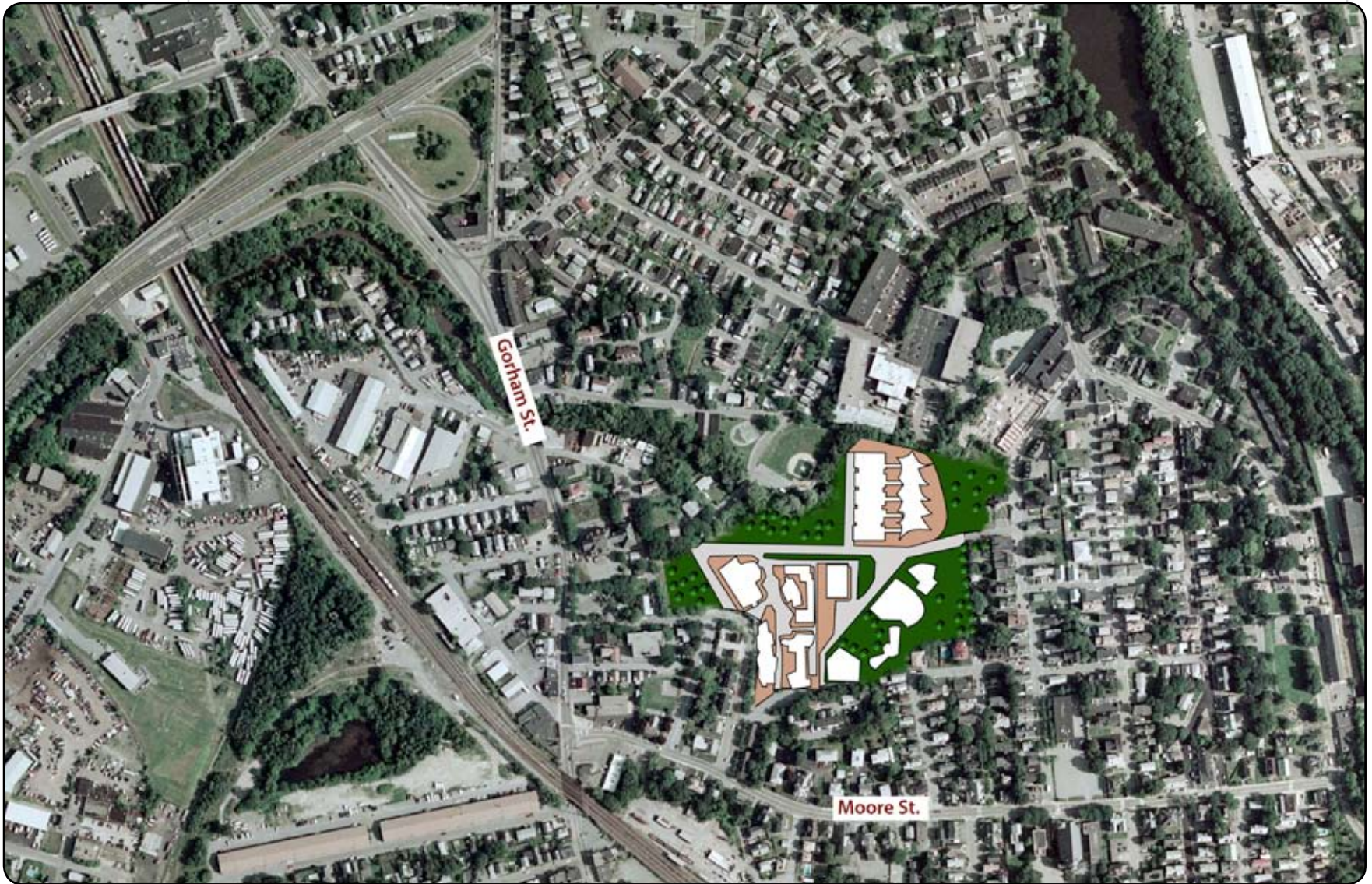
Profile by Teresa Vazquez:
<http://ced.usc.edu/eco-park/Pages/Task1/green.pdf>
<http://www.citypages.com/2008-11-19/news/the-green-institute-faces-possible-foreclosure-after-15-years/>

Londonderry Ecological Industrial Park:
http://www.usc.edu/schools/sppd/research/NCEID/Profiles/Mini_Sites/Londonberry.html

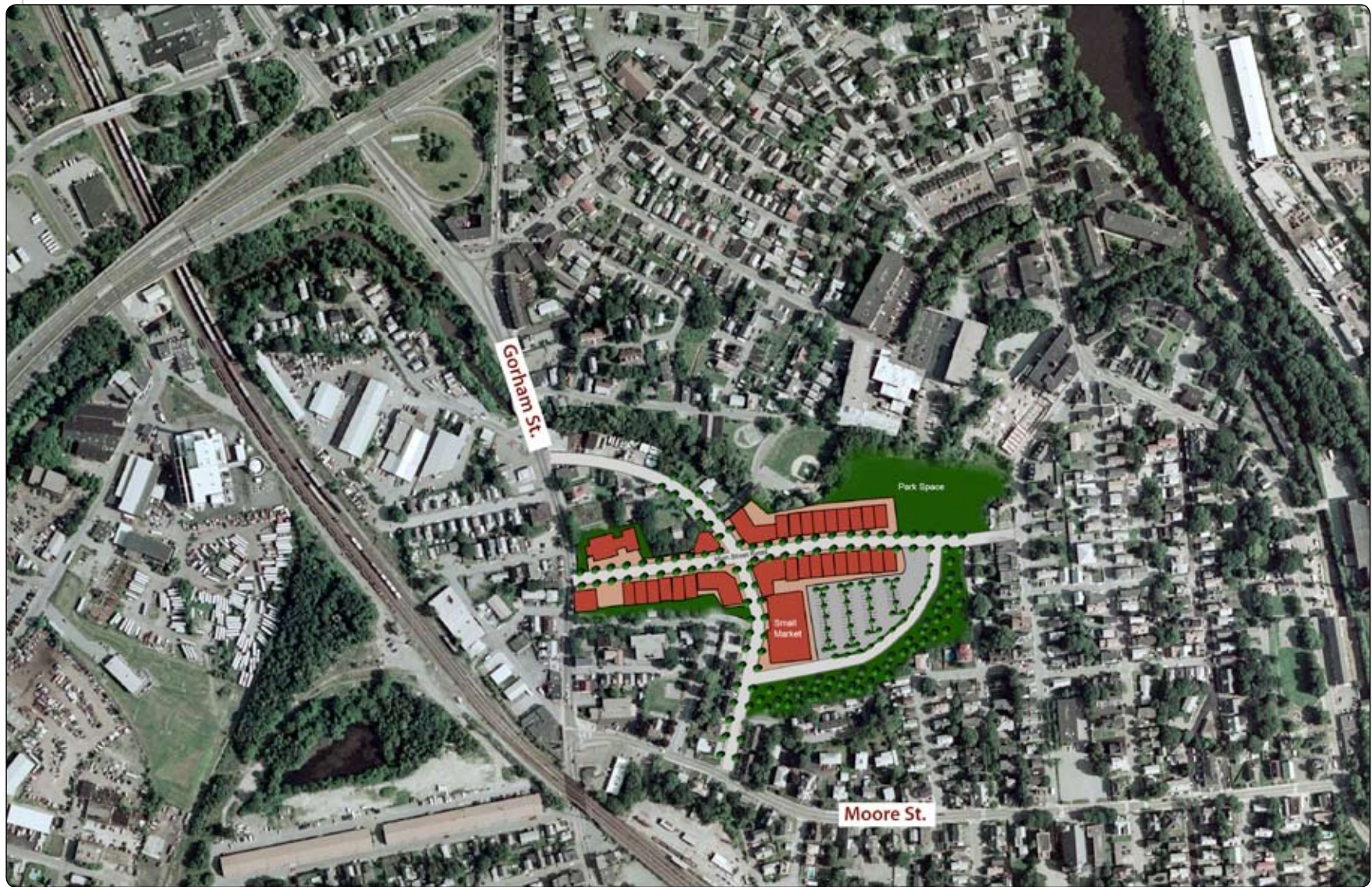
Appendix 5.3 Prince Site Plans



Site Plan 1: Existing Conditions



Site Plan 2: Eco-industrial or Industrial Park



Site Plan 3: Mixed-use Town Center



Site Plan 4: Retail Center with Housing

Appendix 5.4 Network Organizing, Lawrence, MA

Background

Through its innovative network organizing approach, Lawrence CommunityWorks (LCW) of Lawrence, Massachusetts, has built a membership of more than 800 members in less than five years. They are coming into LCW through dozens of different “doors”: NeighborCircles and Property Improvement Committees (PICs), Family Asset Building programs (FAB), neighborhood issues, youth programs, PODER Leadership Experience, and a wide range of working committees. Many members participate in more than one part of the network. Many are giving to the network at least as much as they are getting back.

Lawrence, Massachusetts, is an old industrial city built in the mid-1800s for textile manufacturing. It is small, less than seven square miles, but very dense, with a population of 75,000. It is the 23rd poorest city in the United States.

Lawrence CommunityWorks (LCW) is a community development corporation dedicated to the sustained economic and physical revitalization of the city. It had its beginnings in the early 1980s’ struggle to build affordable housing in North Lawrence, and has built or renovated nearly 200 units for affordable housing for the people of Lawrence. Since 1999, LCW has grown to include 820 members, 20 staff, a board of 15, and a number of significant accomplishments. All this is due to the dedication of staff, to commit to a “network

organizing” approach to building resident engagement.

Network organizing is a hybrid of a lot of the established practices of community organizing and resident engagement – with a few twists. LCW uses “network theory” to guide thinking about the best infrastructure for structuring meaningful and valuable connections among people. LCW’s ultimate goal is to build an environment that maximizes the ability of people to establish and nurture connections that are mutually beneficial, and to eliminate a lot of the barriers and fear to engaging in public life and collective action.

Components

Provisionality. LCW believes that form needs to follow function – that all the power structures (committees, working groups, and so on) have to be seen as “provisional” – useful only in that they get residents to where they need to go. LCW believes that in community organizing and community building, practitioners suffer greatly from dysfunctional or old organizational structures that persist long after their usefulness and have no real connection to action or accountability. LCW believes, instead, that creating an environment where no one gets too comfortable in positions of power is an important precondition to creating accessible and accountable groups.

Open Architecture. LCW feels that groups usually become inaccessible to new people almost as soon as they are formed. Instead, LCW builds groups that stay open and accessible over time. Its approach is to downplay formal leadership roles, and embrace the notion that the form should change a lot, depending on the stage of the work. LCW also emphasizes that the purpose of a group is to “act,” not to “be.” LCW has found these to be subtle but powerful shifts in thinking and practice. It calls these forms “open architecture,” in that they are as informal as possible while still having the capacity to act. They are structured so that new people can come in at any point along the way and quickly feel a sense of ownership of the group. LCW’s Property Improvement Committee (PIC) approach, NeighborCircles, and the Reviviendo Gateway Initiative (RGI) are examples of “open architecture” forms.

Low-Level Affiliation. LCW strives to create an organizational environment that keys into, as naturally as possible, the flow of people’s lives. It feels that its organizational environment must embrace changeability and flexibility and have places for all levels of engagement. The environment must maximize the number of choices, the ability to self-navigate, and the potential for someone to work with others to build the things they want to see happening.

Many Doors, Options. The LCW network is like a big room, with a lot of different activities taking place. It needs a lot of doors – and a lot of different

kinds of doors – that are accessible and interesting to a wide range of people. At LCW, NeighborCircles, PODER, FAB, Young Professionals, Affordable Housing, playground projects, issue committees, all are seen as “doors” into the network. Because they are different kinds of doors, they can attract different kinds of people, with different needs and interests.

Linkages. LCW’s network theory talks about strong and weak linkages. Strong linkages are those between and among people who are part of tight groups. For instance, the twelve women who participate together in a program build, over time, strong personal connections and relationships. That is a good thing. But a network requires that a group also is always looking outward, toward other connections. So trying to forge “weak linkages” to other groups is really what makes a network. As stewards of the Family Network, they always are looking for opportunities to forge those weak linkages across groups.

Stewards and Weavers. LCW views its board, staff, and key leaders as primary weavers and stewards of its network. It is their job to help it grow and develop, and create the systems and infrastructure it needs to flourish. They see a weaver as someone who is actively engaging and connecting people whom they meet to the network. At LCW, everyone who has “point of contact” duties is a weaver. Weavers are to be intentionally curious about people, their interests and connections; and to connect that person to

LCW's "hub" (i.e., its database and new member process) and at least one other thing going on in the network. As a team of weavers, they regularly help people navigate the network and make "weak linkages" to expand connections of value.

Letting Go. LCW feels that in networks, connections naturally flow to value. All nodes, hubs or destinations, therefore, have to earn their place. If not, they should go away. The same is true also for the strategies, programs, and initiatives that LCW builds. In the traditional social service, community development, and community organizing fields, letting go can be very hard. LCW's challenge was to create an environment where genuine choice could be exercised – where people have the information, the self-navigating capacity, and the access that come as close as possible to consumer choice. As LCW builds its network, it admits it faces a very large challenge – the ability to let go – to say something isn't working and shouldn't go on. So far, LCW has been successful in changing this dynamic. Along side this ability is the challenge of building feedback loops – listening systems and approaches – to show the "flow to value" in real time.

Source: <http://www.nw2.org/WinningStrategies/display.asp?strategy=1271&offset=3>

Results

In less than five years, LCW has had many significant accomplishments. It credits these successes in a large part to the way it has approached resident engagement. In this period, it has:

1. Raised more than \$10 million in new investments for Lawrence neighborhoods.
2. Built 25 new affordable housing units on eight vacant lots and abandoned buildings.
3. Built two new playgrounds.
4. Acquired an abandoned school and six other vacant parcels for future development of a community center, a park and affordable housing.
5. Engaged more than 400 families in a wide range of Family Asset Building (FAB) programs and strategies, for both adults and youth.
6. Created the Reviviendo Gateway Initiative, a collaboration of residents, mill owners, small business people, elected officials, and agency heads to create a new vision for a redevelopment district.
7. Organized and won a "Zoning Overlay District," the first major zoning change in the city since 1946, that will stimulate investment in the mill district.
8. Created and implemented the five-month PODER Leadership Experience for resident leaders.
9. Mounted organizing campaigns for affordable housing, against predatory lending, and for the clean up of abandoned land and alleyways.
10. Created the NeighborCircle campaign to stimulate relationship building and local action among neighbors in Lawrence's diverse neighborhoods.